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Water Years 1972-73

Part 2. Water Quality Records

MARCH 3, 1849

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Water resources data for the 1972 and 1973 water years for Michigan consist of records of discharge and water quality of streams, and water quality of lakes and reservoirs. This report contains water quality for 76 gaging stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous analyses. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating local, State, and Federal agencies in Michigan.

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Part 2. Water Quality Records

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Prepared in cooperation with the State of Michigan
and with other agencies

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Michigan Department of State Highways
Branch County Board of Supervisors
Kalamazoo County Board of Supervisors
Van Buren County Board of Supervisors
Corps of Engineers, U. S. Army
U. S. Environmental Protection Agency

Water resources records, 1972, 1973, for Michigan are in the following reports of the U. S. Geological Survey.

1. Water Resources Data for Michigan
   Part 1. Surface Water Records

2. Water Resources Data for Michigan
   Part 2. Water Quality Records

3. Summary of Ground-Water Hydrological
   data in Michigan (open file report)

Copies of this report may be obtained from
District Chief, Water Resources Division
U. S. Geological Survey
2400 Science Parkway
Okemos, Michigan 48864

1975

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WATER RESOURCES DATA FOR MICHIGAN, 1972-73

Part 2. Water Quality Records

INTRODUCTION

Water resources data for the 1972 and 1973 water years for Michigan include records of data for the chemical and physical characteristics of surface and ground waters. Data on the quality of surface water (chemical, temperature, and sediment) were collected from designated sampling sites at predetermined intervals such as once-daily, weekly, monthly or less frequently, and at some sites data were recorded on punched paper tape at 60-minute intervals. Records are given for 394 sampling stations, of which 75 are continuous-records stations, 234 are partial-record stations, and 85 are miscellaneous sites. Records of chemical analyses also are given for 22 ground-water sites. Locations of surface water quality stations are shown in Figure 1 and 2. The records were collected by the Water Resources Division of the U.S. Geological Survey under the direction of T. R. Cummings, district chief. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Michigan.

The Geological Survey has published records of chemical quality, water temperatures, and sediment since 1941 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Beginning with the 1964 water year, water-quality records have been released by the Geological Survey in annual reports on a State-boundary basis. These reports are for limited distribution and are designed primarily for rapid release of data shortly after the end of the water year. These records will be published later in Geological Survey water-supply papers.

COOPERATION

This report was prepared by the U. S. Geological Survey under cooperative agreement with the following organizations:

Michigan State Department of Natural Resources, A. Gene Gazlay, director.

Environmental Protection Branch, Ralph W. Purdy, deputy director.

Natural Resources Branch, Geological Survey Division, A. E. Slaughter, Chief.

Assistance in the form of funds or services was given by the Corps of Engineers, U. S. Army and the U. S. Environmental Protection Agency.

Other agencies furnishing assistance were:

Branch County Board of Supervisors; Cleveland-Cliffs Iron Company; Kalamazoo County Board of Supervisors; Van Buren County Board of Supervisors; Washtenaw County Board of Supervisors

DEFINITION OF TERMS

Terms related to water-quality and hydrologic data, as used in this report are defined as follows (see also table for converting English Units to International System (SI) on page 15).

Acre-foot (AC-FT, ac-ft) is a quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons.

Bed material is the shifting portion of fragmented alluvial material of which the streambed is composed.

Biochemical oxygen demand (BOD) is the amount of oxygen required by bacteria while stabilizing decomposable organic matter under aerobic conditions.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1,9835 acre-feet, or about 646,000 gallons, and represents a runoff of approximately 0.0372 inches from 1 square mile.

Chemical oxygen demand (COD) indicates the quantity of oxidizable compounds in water and varies with water composition, temperature, period of contact, and other factors.

Coliform organisms are a group of bacteria used as an indicator of the sanitary quality of the water. The number of coliform colonies per 100 milliliters is determined by the immediate or delayed incubation membrane filter method or by the multiple-fermentation tube method, as specified in the individual analyses.

Cubic foot per second (cfs, CFS) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute.

Discharge is the volume of water (or more broadly, total fluids,) that passes a given point within a given period of time.

Mean discharge is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Drainage area of a stream at a specified location is that area, measured in horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point.

Drainage basin is a part of the surface of the earth that is occupied by the drainage system, which consists of a surface stream or body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Hardness of water is a physical-chemical characteristic attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per liter (ug/l, UG/L) is a unit expressing the concentration of chemical constituents in solution as weight (micrograms) of solute per unit volume (liter of water.) One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (mg/l, MG/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the weight of solute per unit volume of water. Milligrams or micrograms per liter may be converted to milliequivalents (one thousandth of a gram-equivalent weight of a constituent) per liter by multiplying by the factors in table 1, page 5. Concentration of suspended sediment also is expressed in mg/l, and is based on the weight of sediment per liter of water-sediment mixture. Sediment concentrations may be converted to parts per million by using the factors in table 2, p.5.

Partial-record station is a particular site where limited streamflow or water quality data are collected systematically over a period of years for use in hydrologic analyses. The frequency of collection of such sites is usually less than once per month.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined either by sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling) (Guy, 1969).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay...........	0.00024 - 0.004	Sedimentation
Silt...........	.004 - .062	Sedimentation
Sand...........	.062 - 2.0	Sedimentation or sieve.
Gravel........	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis (Guy, 1969).

Sediment is solid material that originates mostly from disintegrated rocks and is transformed by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment discharge is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight, or by volume, that is discharged in a given time. It is computed by multiplying discharge times mg/l times 0.0027.

Total sediment discharge or total sediment load is the sum of the suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry weight or volume, that is discharged during a given time (Colby and Hembree, 1955).

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sample zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/l).

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per liter to milliequivalents per liter

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})*	0.11119	Hydroxide (OH^{-1})	0.05880
Ammonia as NH_4^{+1}	.05544	Iodide (I^{-1})	.00788
Arsenic (AS^{+3})	.04004	Iron (Fe^{+3})*	.05372
Barium (Ba^{+2})	.01456	Lead (Pb^{+2})*	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})*	.14411
Bromide (Br^{-1})	.01251	Magnesium (Mg^{+2})	.08226
Cadmium (Cd^{+2})	.01779	Manganese (Mn^{+2})*	.03640
Calcium (Ca^{+2})	.04990	Nickel (Ni^{+2})*	.03406
Carbonate (CO_3^{-2})	.03333	Nitrate (NO_3^{-1})	.01613
Chloride (Cl^{-1})	.02821	Nitrite (NO_2^{-1})	.02174
Chromium (Cr^{+6})*	.11539	Phosphate (PO_4^{-3})	.03159
Cobalt (Co^{+2})*	.03394	Potassium (K^{+1})	.02557
Copper (Cu^{+2})*	.03148	Sodium (Na^{+1})	.04350
Cyanide (CN^{-1})	.03844	Strontium (Sr^{+2})*	.02283
Fluoride (F^{-1})	.05264	Sulfate (SO_4^{-2})	.02082
Hydrogen (H^{+1})	.99209	Zinc (Zn^{+2})*	.03060

*Constituent reported in micrograms per liter; multiply by factor and divide results by 1,000.

Table 2.--Factors for conversion of sediment concentration in milligrams per liter to parts per million*
(All values calculated to three significant figures)

Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by
0 - 8	1.00	201-217	1.13	411-424	1.26	619-634	1.39
8.05- 24	1.01	218-232	1.14	427-440	1.27	636-650	1.40
24.2 - 40	1.02	234-248	1.15	443-457	1.28	652-666	1.41
40.5 - 56	1.03	250-264	1.16	460-473	1.29	668-682	1.42
56.5 - 72	1.04	266-280	1.17	476-489	1.30	684-698	1.43
72.5 - 88	1.05	282-297	1.18	492-506	1.31	700-715	1.44
88.5 -104	1.06	299-313	1.19	508-522	1.32	717-730	1.45
105 -120	1.07	315-329	1.20	524-538	1.33	732-747	1.46
121 -136	1.08	331-345	1.21	540-554	1.34	749-762	1.47
137 -152	1.09	347-361	1.22	556-570	1.35	765-780	1.48
153 -169	1.10	363-378	1.23	572-585	1.36	782-796	1.49
170 -185	1.11	380-393	1.24	587-602	1.37	798-810	1.50
186 -200	1.12	395-409	1.25	604-617	1.38		

*Based on water density of 1.000 g/ml and a specific gravity of sediment of 2.65.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Sodium absorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigating farmland.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Because the specific conductance is related to the number and specific chemical types of ions in solution, it can be used for approximating the dissolved solids content in the water. Commonly, the amount of dissolved-solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well, and it may even vary in the same source with changes in the composition of the water.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff". Streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph or a digital mechanism that automatically records water temperature on paper tape.

Tons per acre-foot indicates the dry weight of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour day.

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of discharge. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

SPECIAL NETWORK AND PROGRAMS

Some of the stations for which data are published in this report are included in special networks and programs. Those stations are identified by their title, set in parentheses, under the station name.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

International Hydrological Decade (IHD) River Stations provide a general index of runoff and materials in the water balance (discharge of water, and dissolved and transported solids) of the world. In the United States, IHD Stations provide indices of runoff and the general distribution of water in the principal river basins of the conterminous United States and Alaska.

Pesticide program is a network of water-quality stations where periodic samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where potential contamination could result from the application of the commonly used insecticides and herbicides.

Radiochemical program is a network of regularly sampled water-quality stations where additional samples are collected twice a year (at high and low flow) to be analysed for radio-isotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

DOWNSTREAM ORDER AND STATION NUMBER

Stations are listed in downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of water-quality stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each water-quality station, gaging station, and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record and continuous-record stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station.

Gaps are left in the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 04028100, which appears just to left of the station name includes the 2-digit part number "04" plus the 6-digit downstream order number "028100". The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records in this report are in Part 4 (St. Lawrence River basin). All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

WELL NUMBERS

The well numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude. The following seven digits denote degrees, minutes and seconds of longitude. The last 2 digits are a sequential number for wells within a 1-second grid. The system provides the geographic location of the well and a unique number for each well. See figure 3, below.

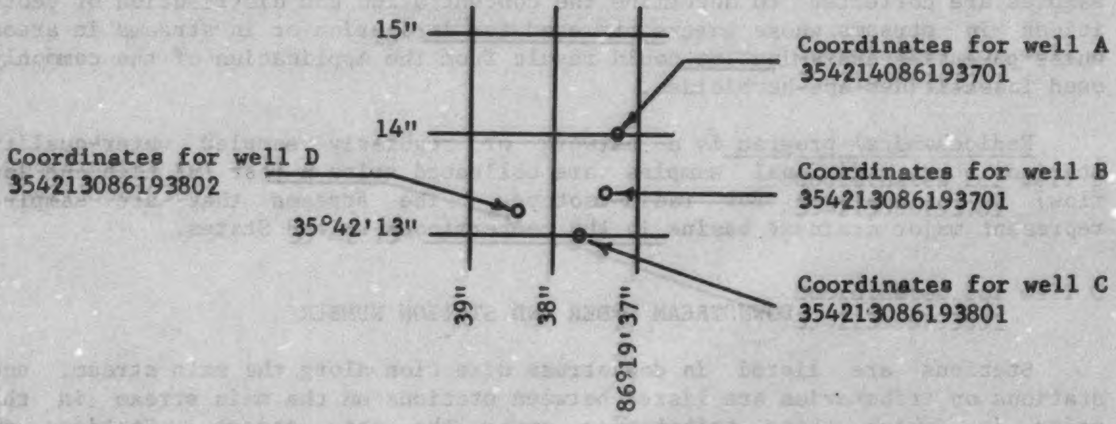
15"
Coordinates for well A
354214086193701
14"
Coordinates for well D
354213086193802
Coordinates for well B
354213086193701
35°42'13"
Coordinates for well C
354213086193801
39"
38"
86°19'37"

Figure 3.—Well location system

A well numbering system used more generally in Michigan is also used in this report. This system indicates the location of wells within the rectangular subdivision of the land with reference to the Michigan meridian and base line.

The first two segments of the number refer to the township and range. The last two segments indicate the section and the location within the section. Sections are divided into quadrants labeled counter-clockwise from the upper right as A, B, C, and D. Each quadrant is then similarly subdivided 3 times, thus each section is subdivided into tracts of 2.5 acres. Lettered quadrants are read from left to right, with the largest subdivision on left. When there is more than one well within a 2.5 acre tract, the wells are numbered sequentially with two digits. For example, a well located within the circled area of section 16, Town 8 North, Range 3 West, (figure 4) would have the location number 08N03W16CCCB01. A second well within the same 2.5 acre subdivision would be numbered 08N03W16CCCB02.

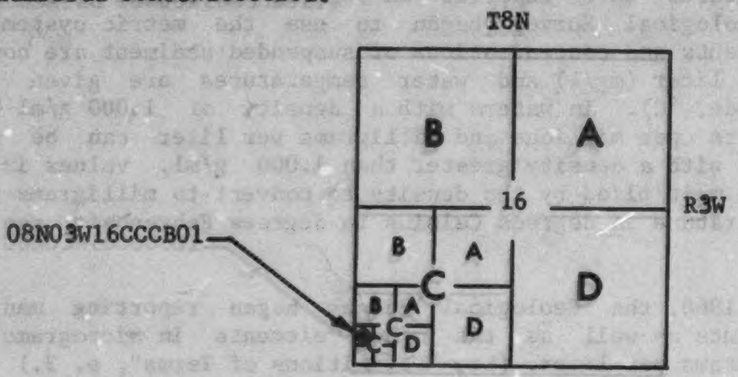

Figure 4.-Michigan local well numbering system

COLLECTION AND EXAMINATION OF DATA

Water samples for analyses usually are collected at or near gaging stations. The discharge records at these stations are used in conjunction with the computations of the chemical constituents and sediment loads. Discharge records for streams in Michigan have been released in the report, "Water Resources Data for Michigan, 1973, Part 1. Surface Water Records."

The data in this report include a description of the sampling station and tabulations of the samples analyzed. The description of the sampling station gives the location, drainage area, periods of record for the various water-quality data, extremes of the pertinent data, and general remarks, in a format similar to that used for streamflow gaging stations. For ground-water sampling stations, no descriptive statements are given. However, the well number, local well number (and thus the location by town and range), depth of well, date of sampling, and other pertinent data are in the table containing the chemical analyses of ground water.

Water-quality information is presented for chemical quality, microbiological parameters, water temperature, and fluvial sediment. Chemical quality includes concentrations of individual dissolved constituents and and certain physical properties or characteristics such as hardness, sodium adsorption ratio, specific conductance, and pH.

Microbiological information includes quantitative identification of certain bacteriological indicator organisms. Water-temperature data represent once-daily observations except for stations where a continuous temperature recorder furnishes information from which daily minimums and maximums are obtained. Fluvial-sediment information is given for suspended-sediment discharge and concentrations and for particle-size distribution of suspended sediment and bed material.

Prior to the 1968 water year, data for chemical constituents and concentration of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (°F). In October 1967, the U.S. Geological Survey began to use the metric system; data for chemical constituents and concentrations of suspended sediment are now reported in milligrams per liter (mg/l) and water temperatures are given in degrees Celsius (centigrade, °C). In waters with a density of 1.000 g/ml (grams per milliliter), parts per millions and milligrams per liter can be considered equal. In waters with a density greater than 1.000 g/ml, values in parts per million should be multiplied by the density to convert to milligrams per liter. To convert temperature in degrees Celsius to degrees Fahrenheit, see table 3, page 11.

In October 1968, the Geological Survey began reporting many of the chemical consituents as well as the minor elements in micrograms per liter instead of milligrams per liter. (See "Definitions of Terms", p. 3.)

Solutes

The methods of collecting and analyzing water samples for determining the kind and concentrations of solutes are described by Brown, Skougstad, and Fishman (1970). One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge depending on the source of material and the turbulence and the mixing of the stream. Some sites must be samples at several verticals across the channel to accurately determine the solute load.

At chemical-quality stations where monitors are installed, the records consist of daily maximum and minimum values for each constituent measured. More detailed records (hourly values) may be obtained from the district office of the U.S. Geological Survey at the address given on page II of this report.

Ground water usually does not change significantly during short periods of time; infrequent sampling and analysis of ground water often adequately defines ground-water quality at a given site.

Table 3.--Degrees Celsius (°C) to degrees Fahrenheit (°F)
(Temperature reported to nearest 0.5°C)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0.0	32	10.0	50	20.0	68	30.0	86	40.0	104
.5	33	10.5	51	20.5	69	30.5	87	40.5	105
1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
2.0	36	12.0	54	22.0	72	32.0	90	42.0	108
3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
4.0	39	14.0	57	24.0	75	34.0	93	44.0	111
4.5	40	14.5	58	24.5	76	34.5	94	44.5	112
5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
8.0	46	18.0	64	28.0	82	38.0	100	48.0	118
8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

(°C = 5/9 (°F - 32) or °F = 9/5 (°C) + 32)

Temperature

Water temperatures are measured at the time of sampling for most of the water-quality stations. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by discharge of heated effluents or by releases of waters from regulated impoundments.

At stations where continuously recording thermographs or digital recorders are present, the records consist of maximum and minimum temperatures for each day and the monthly averages.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross-section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharge for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration time 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediatly before and after the periods, and suspended sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material may be included.

WATER-SUPPLY PAPERS

The annual series of water-supply papers that give information on quality of surface waters in Michigan are shown in the following table.

Table 4.-Water-supply paper numbers, water years, 1941-70.

Water Year	WSP No.	Water Year	WSP No.	Water Year	WSP No.
1941	942	1952	1251	1963	1948
1942	950	1953	1920	1964	1955
1943	970	1954	1350	1965	1962
1944	1022	1955	1400	1966	1992
1945	1030	1956	1451	1967	2012
1946	1050	1957	1520	1968	2094
1947	1102	1958	1571	A1969	2144
1948	1132	1959	1642	A1970	2154
1949	1162	1960	1742	A1971	2164
1950	1186	1961	1882		
1951	1197	1962	1942		

A In press.

SELECTED REFERENCES

American Public Health Association, and others 1971, Standard methods for the examination of water and wastewater, 13th ed.: Am. Public Health Assoc. Assoc., New York, 874 p.

Brown, Eugene, Skougstad, M. W., and Fishman, M. J., 1970, Methods for collection and analysis of water samples for dissolved minerals and gases U.S. Geol. Survey Techniques of Water-Resources Inv., book 5, chap. A1, 160 p.

Colby, B. R., 1963, Fluvial sediments--a summary of source, transportation, deposition, and measurement of sediment discharge: U.S. Geol. Survey Bull, 1181-A, 47 p.

Colby, B. R. and Hembree, C. H., 1955, Computations of total sediment discharge, Niobrara River near Cody, Nebraska: U.S. Geol. Survey Water-Supply Paper 1357, 187 p.

Colby B. R., and Hubbell, D. W., 1961, Simplified methods for computing total sediment discharge with the modified Einstein procedure: U.S. Geol. Survey Water-Supply Paper 1593, 17 p.

Guy, H. P., 1970, Fluvial sediment concepts: U.S. Geol. Survey Techniques of Water-Resources Inv., book 3, chap, C1, 55 p.

__________, 1969, Laboratory theory and methods for sediment analysis: U.S. Geol. Survey Techniques of Water-Resources Inv., book 5, chap. C1, 58 p.

Guy, H. P., and Norman, V.W., 1970, Field methods for measurement of fluvial sediment: U.S. Geol. Survey Techniques of Water-Resources Inv., book 3, chap. C2, 59 p.

Hem, H.D., 1970, Study and interpretation of the chemical characteristics of natural water. Revised edition: U.S. Geol. Survey Water-Supply Paper 1473, 363 p.

Langbein, W.B., and Iseri, K. T., 1960, General introduction and hydrologic definitions: U.S. Geol. Survey Water-Supply Paper 1541-A, 29 p.

Porterfield, George, 1972, Computations of fluvial-sediment discharge: U.S. Geol. Survey Techniques of Water Resources Inv., book 3, chap. C3, 66 p.

Ritter, J. R., and Helley, E. J., 1969, Optical method for determining particle sizes of coarse sediment: U.S. Geol Survey Techniques of Water-Resources Inv., book 5, chap. C3, 33 p.

U.S. Inter-Agency Committee on Water Resources, Subcommittee on Sedimentation, A study of methods used in measurement and analysis of sediment loads in streams. Published by the St. Anthony Falls Hydraulic Laboratory, Minneapolis, Minn.

__________, 1941, Methods of analyzing sediment samples: Rept. 4.

__________, 1953, Accuracy of sediment size analyses made by the bottom, withdrawal-tube method: Rept. 10.

__________, 1957, the development and calibration of visual accumulation tube: Rept. 11.

__________, 1957, Some fundamentals of particle size analysis; Rept. 12.

__________, 1959, Federal inter-agency sedimentation instruments and reports: Rept. AA.

__________, 1961, The single stage sampler for suspended sediment: Rept. 13.

__________, 1963, Determinations of fluvial sediment discharge: Rept. 14.

Table 5.--Factors for converting English units to International System (SI) units

The following factors may be used to convert the English units published herein to the International System of Units (SI). Subsequent reports will contain both the English and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply English units	By	To obtain SI units
	Length	
inches (in)	25.4	millimeters (mm)
	.0254	meters (m)
feet (ft)	.3048	meters (m)
yards (yd)	.9144	meters (m)
rods	5.0292	meters (m)
miles (mi)	1.609	kilometers (km)
	Area	
acres	4047	square meters (m^2)
	.4047	*hectares (ha)
	.4047	square hectometer (hm^2)
	.004047	square kilometers (km^2)
square miles (mi^2)	2.590	square kilometers (km^2)
	Volume	
gallons (gal)	3.785	**liters (l)
	3.785	cubic decimeters (dm^3)
	3.785x10^{-3}	cubic meters (m^3)
million gallons (10^6 gal)	3785	cubic meters (m^3)
	3.785x10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	28.32	cubic decimeters (dm^3)
	.02832	cubic meters (m^3)
cfs-day (ft^3/s-day)	2447	cubic meters (m^3)
	2.447x10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1233	cubic meters (m^3)
	1.233x10^{-3}	cubic hectometers (hm^3)
	1.233x10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	28.32	liters per second (l/s)
	28.32	cubic decimeters per second (dm^3/s)
	.02832	cubic meters per second (m^3/s)
gallons per minute (gpm)	.06309	liters per second (l/s)
	.06309	cubic decimeters per second (dm^3/s)
	6.309x10^{-5}	cubic meters per second (m^3/s)
million gallons per day (mgd)	43.81	cubic decimeters per second (dm^3/s)
	.04381	cubic meters per second (m^3/s)
	Mass	
ton (short)	.9072	tonne (t)

*The unit hectare is approved for use with the International System (SI) for a limited time. See NBS Special Bulletin 330, p.15, 1972 edition.

**The unit liter is accepted for use with the International System (SI). See NBS Special Bulletin 330, p. 13, 1972 edition.

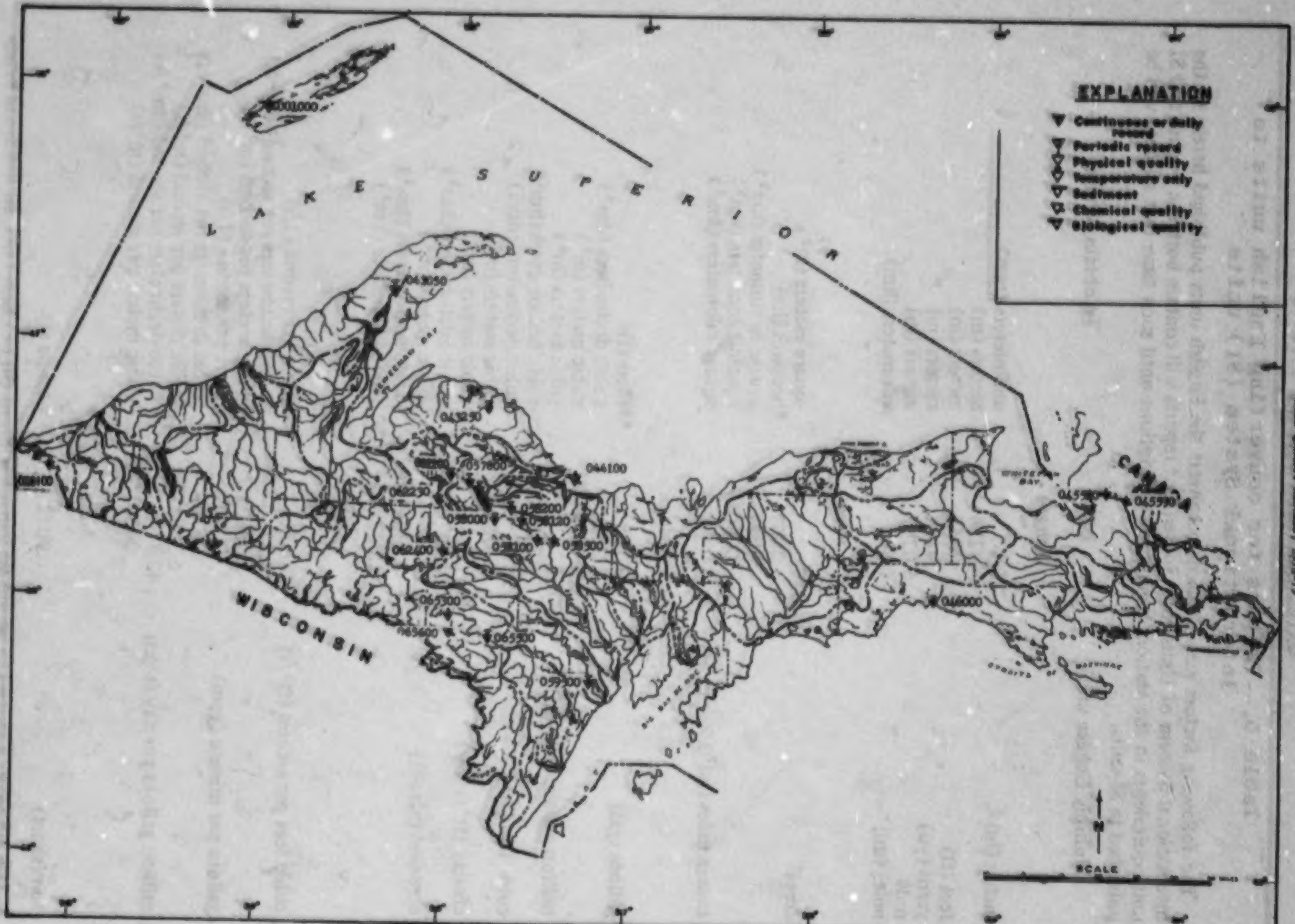
EXPLANATION
▼ Continuous or daily record
▼ Periodic record
▽ Physical quality
▽ Temperature only
▽ Sediment
▽ Chemical quality
▼ Biological quality
LAKE SUPERIOR
CANADA
WISCONSIN
KEWEENAW BAY
WHITEFISH BAY
STRAITS OF MACKINAC
BIG BAY DE NOC
001000
043050
043250
057000
046100
062250
058000
058200
058120
058100
058300
062400
065300
065500
059300
046000
045930
SCALE
N

Figure 3.--Map of Upper Peninsula of Michigan showing location of water-quality stations, water years 1972, 1973.

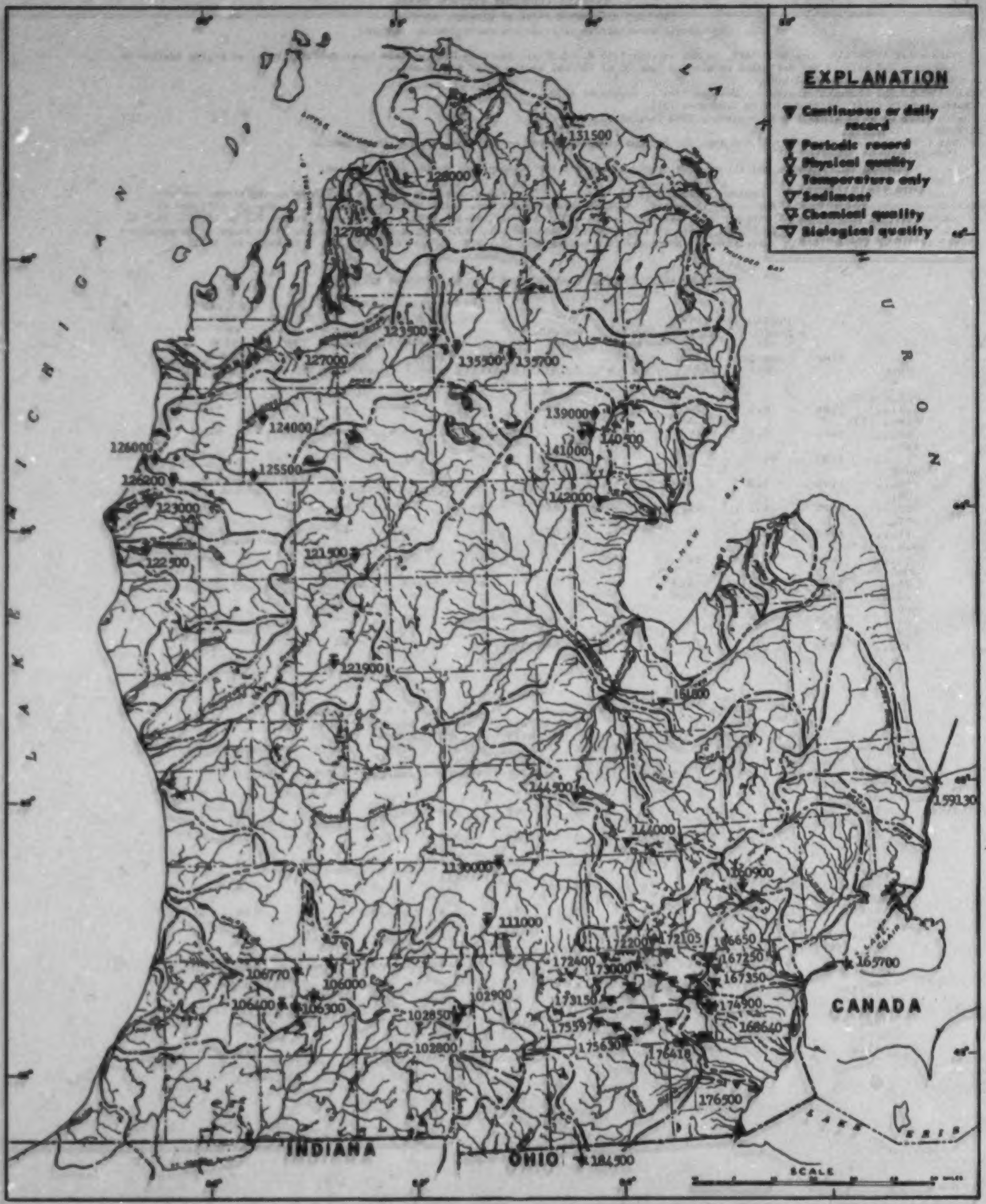
EXPLANATION
Continuous or daily record
Periodic record
Physical quality
Temperature only
Sediment
Chemical quality
Biological quality
LAKE MICHIGAN
LAKE HURON
SAGINAW BAY
LAKE ST. CLAIR
LAKE ERIE
CANADA
INDIANA
OHIO
SCALE
131500
128000
127800
123500
127000
135500
135700
139000
140500
141000
142000
124000
126000
126200
125500
123000
122500
121500
121900
151800
144500
146000
159130
113000
160900
111000
172200
172103
166650
172400
173000
167250
167350
106770
106000
102900
106400
106300
102850
173150
174900
165700
175597
168640
175630
176418
102800
176500
184500

Figure 4.--Map of Lower Peninsula of Michigan showing location of water-quality stations, water years 1972, 1973.

04001000 WASHINGTON CREEK AT WINDIGO, MICH.

(Hydrologic bench-mark, pesticide and radiochemical station)

LOCATION.--Lat 47°55'23", long 89°08'42", in NW¼ sec.28, T.64 N., R.38 W., Keweenaw County, Isle Royal National Park, at gaging station on left bank 0.8 mi (1.3 km) northeast of Windigo, and 35 mi (56 km) southwest of Rock Harbor.
DRAINAGE AREA.--13.2 mi^2 (34.2 km^2).
PERIOD OF RECORD.--Chemical analyses: October 1964 to September 1973.
Water temperatures: October 1964 to September 1973.
Sediment records: August 1966 to September 1973 (periodic).
EXTREMES.--1971-72:
Water temperatures: Maximum, 18.5°C Aug. 21; minimum, freezing point on many days during winter period.
1972-73:
Water temperatures: Maximum, not recorded; minimum, freezing point on many days during winter period.
Period of Record:
Water temperatures (1964-73): Maximum, 22.0°C July 26, 30, 31, 1970; minimum, freezing point on many days during winter periods.
REMARKS.--Intermittent ice cover during winter period. No temperature record Nov. 9-12, 1971, Nov. 21, 1971, to May 13, 1972, due to mechanical failure. Recorder stopped Oct. 4-14, 1971, June 4-10, July 4-8, 26-31, 1972, range in temperatures 7.5 to 12.0°C, 10.5 to 15.5°C, 11.5 to 16.0°C, 14.0 to 17.0°C, respectively. Recorder stopped Oct. 2-7, 1972, Apr. 18 to June 5, 1973, range in temperatures 7.5 to 9.5°C, 2.5 to 16.0°C, respectively. No temperature record Nov. 15, 1972, to Mar. 2, 1973, July 7 to Sept. 11, 1973.

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DISSOLVED IRON (FE) (UG/L)	IRON (FE) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	MANGANESE (MN) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)
OCT., 1971										
14...	1200	5.1	14	--	800	--	34	--	21	4.1
FEB., 1972										
01...	1445	5.7	15	--	--	600	--	8	17	5.4
MAY										
14...	1130	96	8.3	--	220	--	11	--	7.2	2.6
JUNE										
25...	1145	5.3	8.5	--	--	--	--	--	17	5.7
AUG.										
02...	0900	4.2	13	--	630	--	6	--	21	5.2
OCT.										
11...	1300	2.6	13	--	570	--	30	--	22	6.0
MAR., 1973										
03...	1600	2.2	14	710	--	--	22	--	23	8.9
JUNE										
06...	1000	18	5.9	--	290	--	10	--	13	5.4
23...	1635	4.0	8.8	--	--	--	--	--	18	5.0
AUG.										
04...	1245	1.5	13	--	--	--	--	--	26	6.8
SEP.										
11...	1230	2.8	15	--	960	--	43	--	24	7.4

DATE	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	NITRATE (N) (MG/L)
OCT., 1971									
14...	2.9	.8	76	0	62	5.6	4.0	.2	.10
FEB., 1972									
01...	3.7	.6	75	0	62	3.0	3.5	.2	.10
MAY									
14...	.9	.2	29	0	24	1.8	.0	.2	.10
JUNE									
25...	3.4	.7	75	0	62	2.6	6.0	.2	.09
AUG.									
02...	3.0	.6	85	0	70	.8	5.0	.3	.09
OCT.									
11...	3.7	.8	91	0	75	.6	6.0	.2	.04
MAR., 1973									
03...	4.4	.7	108	0	89	3.8	7.0	.1	.32
JUNE									
06...	2.0	.5	53	0	43	1.0	5.3	.2	.07
23...	2.6	.5	79	0	65	.4	3.0	.2	.04
AUG.									
04...	4.2	.9	107	0	88	1.0	6.0	.2	.09
SEP.									
11...	3.1	.9	104	0	85	1.0	4.0	.3	.11

04001000 WASHINGTON CREEK AT WINDIGO, MICH.--Continued

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973--Continued

DATE	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
OCT., 1971									
14...	.01	116	1.60	70	8	8	.2	132	7.5
FEB., 1972									
01...	.06	90	1.39	64	3	11	.2	135	7.5
MAY									
14...	.01	63	16.3	29	5	6	.1	61	7.0
JUNE									
25...	.05	94	1.35	66	4	10	.2	134	7.3
AUG.									
02...	.01	124	1.41	74	4	8	.2	140	7.2
OCT.									
11...	.06	98	.69	80	5	9	.2	158	7.3
MAR., 1973									
03...	.06	127	.75	94	5	9	.2	190	7.4
JUNE									
06...	.06	92	4.47	54	11	7	.1	98	7.2
23...	.01	105	1.13	65	0	8	.1	127	7.1
AUG.									
04...	.17	119	.48	93	5	9	.2	181	7.4
SEP.									
11...	.02	149	1.13	90	6	7	.1	168	7.0

DATE	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	IMME-DIATE COLI-FORM (COL. PER 100 ML)	FECAL COLI-FORM (COL. PER 100 ML)	AIR TEMPER-ATURE (DEG C)	TUR-BID-ITY (SEVER-ITY)
OCT., 1971									
14...	7.5	80	8.4	71	1.7	--	--	12.5	--
FEB., 1972									
01...	.0	70	--	--	--	--	--	12.0	--
MAY									
14...	5.5	80	10.8	87	9.6	--	--	--	--
JUNE									
25...	14.0	70	--	--	--	--	--	18.5	--
AUG.									
02...	15.0	120	7.6	77	1.5	8800	70	13.5	--
OCT.									
11...	7.0	50	10.2	85	1.4	1200	50	12.0	--
MAR., 1973									
03...	.0	30	12.8	90	2.0	--	--	5.0	--
JUNE									
06...	13.0	70	9.2	89	1.2	400	10	11.0	1
23...	15.5	65	--	--	--	--	--	--	--
AUG.									
04...	14.0	100	--	--	--	--	--	23.0	--
SEP.									
11...	13.5	60	8.2	80	1.4	--	--	13.0	--

DATE	TOTAL ORGANIC CARBON (C) (MG/L)	ALDRIN (UG/L)	ALDRIN IN BOTTOM DE-POSITS (UG/KG)	CHLOR-DANE (UG/L)	CHLOR-DANE IN BOTTOM DE-POSITS (UG/KG)	DDD (UG/L)	DDD IN BOTTOM DE-POSITS (UG/KG)	DDE (UG/L)	DDE IN BOTTOM DE-POSITS (UG/KG)	DDT (UG/L)	DDT IN BOTTOM DE-POSITS (UG/KG)	DI-AZINON (UG/L)
OCT., 1971												
14...	--	.00	<.2	.0	<1	.00	<.2	.00	<.2	.00	<.2	.00
OCT., 1972												
11...	20	.00	<.2	.0	<1	.00	<.2	.00	<.2	.00	<.2	.00

DATE	DI-AZINON IN BOTTOM DE-POSITS (UG/KG)	DI-ELDRIN (UG/L)	DI-ELDRIN IN BOTTOM DE-POSITS (UG/KG)	ENDRIN (UG/L)	ENDRIN IN BOTTOM DE-POSITS (UG/KG)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR IN BOTTOM DE-POSITS (UG/KG)	HEPTA-CHLOR EPOXIDE (UG/L)	HEPTA-CHLOR EPOXIDE IN BOT-TOM DE-POSITS (UG/KG)	LINDANE (UG/L)	LINDANE IN BOTTOM DE-POSITS (UG/KG)	MALA-THION (UG/L)
OCT., 1971												
14...	--	.00	<.2	.00	<.2	.00	<.2	.00	<.2	.00	<.2	.00
OCT., 1972												
11...	.0	.00	<.2	.00	<.2	.00	<.2	.00	<.2	.00	<.2	.00

DATE	MALA-THION IN BOTTOM DE-POSITS (UG/KG)	METHYL PARA-THION (UG/L)	METHYL PARA-THION IN BOT-TOM DE-POSITS (UG/KG)	PARA-THION (UG/L)	PARA-THION IN BOTTOM DE-POSITS (UG/KG)	PCB (UG/L)	PCB IN BOTTOM DE-POSITS (UG/KG)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)
OCT., 1971										
14...	<.2	.00	<.2	.00	<.2	<.5	<10	.00	.00	.00
OCT., 1972										
11...	<.2	.00	<.2	.00	<.2	<.1	<2	.00	.00	.00

04001000 WASHINGTON CREEK AT WINDIGO, MICH.--Continued

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973--Continued

DATE	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
OCT., 1971 14...	--	12	--	0	--	0	--	0	--	1
MAY , 1972 14...	0	--	0	--	0	--	1	--	2	--
OCT. 11...	5	--	1	--	0	--	0	--	4	--
JUNE, 1973 6 ..	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL FILT-RABLE RESIDUE (MG/L)
OCT., 1971 14...	--	0	--	.5	--	0	--	30	110
MAY , 1972 14...	2	--	1.2		4	--	40	--	--
OCT. 11...	2	--	.5	--	2	--	20	--	130
JUNE, 1973 6 ..	--	--	--	--	--	--	--	--	--
SEP. 11...	--	--	--	--	--	--	--	--	140

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)	DIS-SOLVED URANIUM (U) (UG/L)
OCT., 1971 14...	2	<1.6	<.4	3.1	1.0	4.3	<.4	.04	.04
MAY , 1972 14...	--	--	--	--	--	--	--	--	--
OCT. 11...	3	<1.4	<.4	3.1	1.0	2.5	.9	--	.12
SEP., 1973 11...	3	<2.0	<.4	4.4	<.4	3.6	<.4	.03	--

DATE	TIME	TEMPER-ATURE (DEG C) (00010)	INSTAN-TANEOUS DIS-CHARGE (CFS) (00061)	SUS-PENDED SEDI-MENT (MG/L) (80154)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY) (80155)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)
OCT., 1971 14...	1200	7.5	5.1	--	--	1	3	12
MAY , 1972 14...	1130	5.5	96	20	5.2	--	--	--

DATE	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT., 1971 14...	28	38	53	74	88	97	100
MAY , 1972 14...	--	--	--	--	--	--	--

04001000 WASHINGTON CREEK AT WINDIGO, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.0	11.5	6.0	5.5	---	---	---	---	---	---	---	---
2	13.0	13.0	5.5	5.5	---	---	---	---	---	---	---	---
3	12.5	12.0	5.5	5.5	---	---	---	---	---	---	---	---
4	---	---	5.5	5.0	---	---	---	---	---	---	---	---
5	---	---	5.0	4.5	---	---	---	---	---	---	---	---
6	---	---	4.5	3.5	---	---	---	---	---	---	---	---
7	---	---	3.5	3.0	---	---	---	---	---	---	---	---
8	---	---	3.0	3.0	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	3.0	3.0	---	---	---	---	---	---	---	---
14	---	---	3.5	3.0	---	---	---	---	---	---	---	---
15	8.5	8.0	4.0	3.5	---	---	---	---	---	---	---	---
16	8.0	8.0	4.0	4.0	---	---	---	---	---	---	---	---
17	8.5	8.0	4.0	4.0	---	---	---	---	---	---	---	---
18	10.0	8.5	4.5	4.0	---	---	---	---	---	---	---	---
19	11.5	10.0	4.5	4.0	---	---	---	---	---	---	---	---
20	11.0	9.5	4.0	3.0	---	---	---	---	---	---	---	---
21	9.5	9.5	---	---	---	---	---	---	---	---	---	---
22	10.0	9.5	---	---	---	---	---	---	---	---	---	---
23	9.5	8.0	---	---	---	---	---	---	---	---	---	---
24	8.5	8.0	---	---	---	---	---	---	---	---	---	---
25	9.5	8.5	---	---	---	---	---	---	---	---	---	---
26	10.0	9.5	---	---	---	---	---	---	---	---	---	---
27	11.0	10.0	---	---	---	---	---	---	---	---	---	---
28	11.0	9.0	---	---	---	---	---	---	---	---	---	---
29	8.5	6.5	---	---	---	---	---	---	---	---	---	---
30	6.5	6.5	---	---	---	---	---	---	---	---	---	---
31	7.0	6.0	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	14.0	10.5	16.0	14.5	16.0	15.0	16.0	15.0
2	---	---	---	---	14.5	11.5	13.5	13.0	16.0	15.0	15.0	13.0
3	---	---	---	---	16.0	12.5	13.5	11.5	15.5	14.0	13.0	11.5
4	---	---	---	---	---	---	---	---	14.5	13.0	11.5	10.5
5	---	---	---	---	---	---	---	---	14.5	14.0	10.5	9.5
6	---	---	---	---	---	---	---	---	14.5	14.5	10.5	10.0
7	---	---	---	---	---	---	---	---	14.5	13.5	11.5	10.5
8	---	---	---	---	---	---	---	---	13.5	13.0	11.5	10.5
9	---	---	---	---	---	---	15.0	14.0	14.5	13.0	10.5	9.5
10	---	---	---	---	---	---	15.0	13.5	14.0	12.5	11.0	10.5
11	---	---	---	---	10.5	9.5	15.5	13.5	15.5	13.0	12.5	11.0
12	---	---	---	---	10.5	9.5	15.5	15.0	16.5	14.5	12.0	11.0
13	---	---	---	---	11.5	10.5	16.0	14.5	16.0	15.5	11.5	11.5
14	---	---	7.0	6.0	14.0	11.5	16.5	16.0	15.5	15.5	11.5	10.0
15	---	---	8.5	6.5	14.0	12.5	16.5	15.0	15.5	14.5	11.5	10.5
16	---	---	10.5	8.0	13.0	10.5	16.5	15.0	16.0	15.0	11.0	10.5
17	---	---	11.5	9.0	13.0	9.5	16.5	15.5	17.0	16.0	10.5	10.0
18	---	---	12.5	10.5	14.5	10.0	16.0	14.5	17.0	16.5	10.5	10.0
19	---	---	13.5	10.5	14.5	14.0	16.5	15.0	17.5	16.0	10.5	9.5
20	---	---	14.5	12.0	14.5	12.5	17.0	17.0	18.0	17.0	11.5	10.5
21	---	---	15.5	12.5	14.5	11.0	17.0	15.5	18.5	18.0	11.5	10.0
22	---	---	15.0	11.5	14.0	11.0	15.5	14.0	18.0	15.5	10.0	8.5
23	---	---	17.0	12.5	13.5	11.0	15.0	14.0	15.5	13.5	9.0	8.5
24	---	---	17.0	12.5	14.5	12.0	16.0	15.0	13.5	13.0	10.0	9.0
25	---	---	17.5	13.5	16.0	13.5	16.0	15.5	14.0	13.0	10.0	9.5
26	---	---	17.0	14.0	17.0	14.0	---	---	14.0	14.0	9.5	8.5
27	---	---	17.0	13.5	17.0	15.0	---	---	15.5	14.0	8.5	7.5
28	---	---	16.5	14.0	17.0	15.5	---	---	15.5	14.0	7.5	7.5
29	---	---	16.0	12.0	15.5	14.5	---	---	15.0	13.5	7.5	7.5
30	---	---	12.0	10.0	16.5	14.5	---	---	16.0	14.0	7.5	7.0
31	---	---	11.5	9.5	---	---	---	---	16.5	16.0	---	---
MONTH	---	---	---	---	---	---	---	---	18.5	12.5	16.0	7.0
YEAR	18.5	3.0										

04001000 WASHINGTON CREEK AT WINDIGO, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 to SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.5	7.0	4.0	4.0	---	---	---	---	---	---	---	---
2	---	---	4.0	3.5	---	---	---	---	---	---	---	---
3	---	---	3.5	3.0	---	---	---	---	---	---	---	0.0
4	---	---	3.0	3.0	---	---	---	---	---	---	0.0	0.0
5	---	---	3.0	3.0	---	---	---	---	---	---	0.5	0.0
6	---	---	3.5	3.0	---	---	---	---	---	---	0.0	0.0
7	---	---	4.0	3.5	---	---	---	---	---	---	0.0	0.0
8	7.5	7.5	4.0	3.5	---	---	---	---	---	---	0.0	0.0
9	7.5	6.0	3.5	3.5	---	---	---	---	---	---	0.5	0.0
10	6.0	6.0	3.5	3.5	---	---	---	---	---	---	0.5	0.0
11	7.5	6.0	3.5	3.5	---	---	---	---	---	---	0.5	0.5
12	7.5	7.0	3.5	3.0	---	---	---	---	---	---	0.5	0.5
13	7.0	6.5	3.0	2.5	---	---	---	---	---	---	0.5	0.5
14	6.5	6.5	2.5	2.5	---	---	---	---	---	---	0.5	0.5
15	6.5	6.0	---	---	---	---	---	---	---	---	0.5	0.5
16	6.0	5.5	---	---	---	---	---	---	---	---	0.5	0.5
17	5.5	4.0	---	---	---	---	---	---	---	---	0.5	0.5
18	4.0	3.5	---	---	---	---	---	---	---	---	1.0	0.5
19	3.5	3.0	---	---	---	---	---	---	---	---	1.0	1.0
20	3.0	3.0	---	---	---	---	---	---	---	---	1.0	1.0
21	4.0	3.0	---	---	---	---	---	---	---	---	1.0	1.0
22	4.0	4.0	---	---	---	---	---	---	---	---	1.0	1.0
23	4.0	4.0	---	---	---	---	---	---	---	---	1.0	1.0
24	4.0	3.5	---	---	---	---	---	---	---	---	1.0	0.5
25	3.5	3.5	---	---	---	---	---	---	---	---	0.5	0.5
26	5.0	3.5	---	---	---	---	---	---	---	---	0.5	0.5
27	5.5	5.0	---	---	---	---	---	---	---	---	1.0	1.0
28	5.5	5.5	---	---	---	---	---	---	---	---	1.0	1.0
29	5.5	4.5	---	---	---	---	---	---	---	---	1.0	1.0
30	4.5	4.0	---	---	---	---	---	---	---	---	1.5	1.0
31	4.0	---	---	---	---	---	---	---	---	---	1.5	1.0
MONTH	7.5	---	---	---	---	---	---	---	---	---	1.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1.0	1.0	---	---	---	---	16.5	13.0	---	---	---	---
2	1.0	1.0	---	---	---	---	16.5	15.0	---	---	---	---
3	1.5	1.0	---	---	---	---	16.5	14.0	---	---	---	---
4	2.0	1.5	---	---	---	---	16.0	14.5	---	---	---	---
5	1.5	1.5	---	---	---	---	17.0	14.0	---	---	---	---
6	1.5	1.5	---	---	15.5	13.0	17.0	14.5	---	---	---	---
7	2.0	1.5	---	---	15.5	13.5	---	---	---	---	---	---
8	2.0	1.5	---	---	14.5	12.5	---	---	---	---	---	---
9	2.0	1.5	---	---	15.5	12.5	---	---	---	---	---	---
10	2.0	1.5	---	---	15.0	13.5	---	---	---	---	---	---
11	2.5	2.0	---	---	15.0	14.0	---	---	---	---	---	---
12	3.5	2.5	---	---	16.0	13.0	---	---	---	---	14.0	12.5
13	4.0	3.0	---	---	16.5	13.5	---	---	---	---	13.0	11.0
14	4.5	3.5	---	---	16.5	13.5	---	---	---	---	12.5	11.5
15	4.5	3.0	---	---	15.5	12.5	---	---	---	---	12.5	12.0
16	3.0	2.5	---	---	15.5	13.5	---	---	---	---	12.0	10.5
17	3.0	2.0	---	---	13.5	12.5	---	---	---	---	10.5	9.0
18	---	---	---	---	13.0	11.5	---	---	---	---	10.0	9.0
19	---	---	---	---	16.5	13.0	---	---	---	---	10.0	9.5
20	---	---	---	---	17.0	15.0	---	---	---	---	10.0	9.0
21	---	---	---	---	17.0	15.0	---	---	---	---	9.0	8.0
22	---	---	---	---	16.5	15.0	---	---	---	---	9.0	8.5
23	---	---	---	---	16.0	13.5	---	---	---	---	9.5	9.0
24	---	---	---	---	16.5	13.5	---	---	---	---	10.0	9.5
25	---	---	---	---	16.5	15.5	---	---	---	---	11.0	10.0
26	---	---	---	---	16.5	14.5	---	---	---	---	11.0	11.0
27	---	---	---	---	16.5	15.0	---	---	---	---	11.0	10.5
28	---	---	---	---	15.0	14.0	---	---	---	---	10.5	10.0
29	---	---	---	---	14.0	13.5	---	---	---	---	10.5	10.5
30	---	---	---	---	13.5	13.5	---	---	---	---	10.5	9.5
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	17.0	11.5	---	---	---	---	---	---
YEAR	17.0	0.0										

04028100 MONTREAL RIVER NEAR IRONWOOD, MICH.

LOCATION.--Lat 46°30'26", long 90°31'47", in SE¼ SW¼ sec. 31, T.48 N., R.47 W., Gogebic County, 0.2 mi (0.3 km) above Spring Creek, and 4.2 mi (6.7 km) northwest of Ironwood, Mich.
DRAINAGE AREA.--30.6 mi² (208 km²).
PERIOD OF RECORD.--Chemical analyses: October 1969 to July 1973 (discontinued).
REMARKS.--Samples collected monthly as part of the Environmental Protection Agency national network. Discharge prefaced by the letter "E" are estimated based on rating curves or by correlation with other sites. Water-quality data prefaced by the letter "E" are estimates based on field analyses.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972.

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
OCT. 06...	0930	E35	--	E25	.50	--	--	.73
NOV. 11...	1100	E60	--	E15	.40	--	--	.25
DEC. 08...	1400	E50	41	8.0	.40	.16	.43	.49
JAN. 20...	0900	E18	--	E30	.90	--	--	.52
MAR. 09...	1015	--	70	12	.80	.07	.81	.59
APR. 19...	1000	E350	--	E20	.50	--	--	.14
MAY 04...	0900	E200	--	E25	.10	--	--	.10
JUNE 01...	1400	E110	26	5.5	.40	.76	1.5	.29
JULY 11...	0930	E25	--	E25	1.5	--	--	.01
AUG. 17...	1100	E1600	--	E26	.20	--	--	.10

DATE	DISSOLVED-PHOSPHORUS (P) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	TOTAL RESIDUE (MG/L)	TOTAL NONFILTRABLE RESIDUE (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)
OCT. 06...	.34	--	--	--	E70	137	6.9	11.0	4
NOV. 11...	.18	--	--	--	E50	113	7.0	1.0	2
DEC. 08...	.36	104	132	28	60	122	7.2	.5	2
JAN. 20...	.46	--	--	--	E85	203	7.2	.0	2
MAR. 09...	.50	138	154	16	85	195	7.1	.0	3
APR. 19...	.05	--	--	--	E35	71	6.8	1.0	4
MAY 04...	.06	--	--	--	E34	54	6.8	7.0	2
JUNE 01...	.14	96	119	23	54	87	6.8	16.5	3
JULY 11...	.69	--	--	--	E70	170	7.1	19.0	2
AUG. 17...	--	--	--	--	E35	52	6.7	19.0	8

DATE	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	PHENOLS (UG/L)	AIR TEMPERATURE (DEG C)	OIL-GREASE (SEVERITY)	FLOATING OR SOLID ICE COVER (SEVERITY)
OCT. 06...	9.1	85	2.2	8600	2	8.5	0	0
NOV. 11...	12.6	92	.4	3000	2	.0	0	0
DEC. 08...	13.0	93	1.0	100	4	1.5	0	1
JAN. 20...	12.0	86	2.8	100	10	-10.0	0	4
MAR. 09...	11.4	83	3.2	100	5	-7.5	0	4
APR. 19...	12.0	88	4.0	400	13	8.0	0	0
MAY 04...	11.0	94	2.6	1800	0	4.0	0	--
JUNE 01...	9.2	98	2.0	800	0	22.0	0	--
JULY 11...	8.5	94	2.0	1500	3	24.5	0	--
AUG. 17...	8.8	98	2.0	300	2	25.0	0	--

04028100 MONTREAL RIVER NEAR IRONWOOD, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
OCT.								
02...	1550	E135	20	8.0	.30	.32	1.4	.14
19...	1330	E60	--	E25	.30	--	--	.19
NOV.								
10...	0930	E375	--	E10	.20	--	--	.03
DEC.								
20...	0930	E35	57	13	.60	.27	.16	.42
FEB.								
07...	1500	E40	--	--	.40	--	--	.20
MAR.								
13...	0930	E350	26	7.0	.40	.00	.65	.11
APR.								
12...	0910	E110	--	--	.20	--	--	.10
MAY								
10...	1000	E600	--	--	.20	--	--	.06
JUNE								
20...	0930	29	50	13	1.1	.16	.98	.44

DATE	DISSOLVED PHOSPHORUS (P) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	TOTAL RESIDUE (MG/L)	TOTAL NONFILTRABLE RESIDUE (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)
OCT.									
02...	.10	106	126	20	39	79	7.1	10.0	2
19...	--	--	--	--	E50	111	7.0	2.0	15
NOV.									
10...	--	--	--	--	E35	63	6.5	3.5	9
DEC.									
20...	.37	120	130	10	72	166	7.1	.0	2
FEB.									
07...	--	--	--	--	--	136	6.9	.0	4
MAR.									
13...	.05	70	90	20	36	86	7.1	.5	6
APR.									
12...	--	--	--	--	--	83	7.2	2.0	4
MAY									
10...	--	--	--	--	--	68	7.1	9.0	4
JUNE									
20...	.39	110	142	32	60	155	6.9	16.5	5

DATE	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	PHENOLS (UG/L)	AIR TEMPERATURE (DEG C)	OIL-GREASE (SEVERITY)	FLOATING OR SOLID ICE COVER (SEVERITY)
OCT.								
02...	10.3	95	2.7	3000	0	10.0	0	--
19...	13.6	100	3.0	400	5	3.5	0	--
NOV.								
10...	12.7	100	2.6	2900	5	4.0	0	0
DEC.								
20...	12.2	80	3.4	800	7	-6.0	0	4
FEB.								
07...	12.0	80	4.6	60	5	-10.0	0	4
MAR.								
13...	12.5	90	3.4	3300	4	4.5	0	1
APR.								
12...	13.2	100	2.8	1500	4	.0	0	0
MAY								
10...	10.5	95	2.0	2100	2	13.0	0	0
JUNE								
20...	7.6	80	2.0	1200	0	21.5	0	0

04043050 TRAP ROCK RIVER NEAR LAKE LINDEN, MICH.

LOCATION.--Lat 47°13'43", long 88°23'07", in SW¼ SE¼ sec.20, T.56 N., R.32 W., Houghton County, temperature recorder at gaging station on right bank 20ft (6m) upstream from county highway bridge, 0.1 mi (0.2 km) west of Trap Rock school, 2.0 mi (3.2 km) northeast of Lake Linden, and 3.0 mi (4.8 km) upstream from mouth.

DRAINAGE AREA.--28.0 mi² (72.5 km²).

PERIOD OF RECORD.--Water temperatures: October 1971 to September 1973.

EXTREMES, 1971-72:
Water temperatures: Maximum, 22.0°C July 31; minimum, freezing point on many days during December to May.
1972-73:
Water temperatures: Maximum,22.0°C July 6, 8; minimum, freezing point on many days during November to March.
Period of record:
Water temperatures (1971-73): Maximum 22.0°C July 31, 1972, July 6, 8, 1973; minimum freezing point on many days during winter period.

REMARKS.--Complete ice cover during the winter period. Recorder stopped Nov. 23 to Dec. 13, Aug. 14-17, 22-30, Sept. 7-12, 1971-72, range in temperature 0.0°C to 3.0°C, 14.0°C to 21.5°C, 12.5°C to 20.5°C, and 11.0°C to 17.5°C, respectively.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	13.0	6.5	5.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
2	15.0	13.5	6.5	6.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
3	14.5	13.0	6.5	5.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0
4	13.0	11.5	6.0	5.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0
5	11.5	10.5	6.0	5.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
6	11.5	10.0	5.0	1.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0
7	10.0	9.0	2.0	1.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
8	11.5	9.5	2.0	1.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
9	10.0	8.5	3.5	2.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
10	11.0	9.0	3.5	3.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
11	10.0	9.0	4.5	3.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0
12	10.0	8.0	4.5	3.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0
13	10.0	7.5	4.5	3.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0
14	11.5	9.0	5.0	4.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
15	11.0	9.0	5.5	5.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0
16	10.0	9.0	5.5	5.5	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0
17	10.5	9.0	6.0	5.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
18	12.5	9.5	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	13.5	11.5	6.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	12.0	10.0	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	12.0	11.5	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	12.0	10.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	10.0	9.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	10.5	9.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	12.0	10.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	12.5	11.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	12.5	11.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	11.5	9.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	9.5	8.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
30	9.0	7.5	---	---	0.0	0.0	0.0	0.0	---	---	1.5	0.5
31	9.0	6.5	---	---	0.0	0.0	0.0	0.0	---	---	2.0	0.0
MONTH	16.0	6.5	---	---	---	---	0.5	0.0	0.0	0.0	2.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.0	1.0	2.5	0.5	15.0	10.5	16.5	13.0	20.5	15.5	18.0	15.0
2	3.0	1.0	0.5	0.0	16.0	11.0	15.5	12.5	18.0	15.0	16.5	13.0
3	2.0	0.0	3.5	0.0	17.0	20.5	13.5	11.0	18.0	13.5	15.0	11.0
4	3.5	0.0	3.0	0.5	16.0	12.0	16.5	10.0	19.5	12.5	15.0	11.5
5	1.0	0.0	4.5	0.5	13.5	23.0	18.5	12.0	18.0	13.0	15.5	12.0
6	2.5	0.0	3.5	1.5	16.5	10.0	18.5	12.5	17.0	14.0	14.0	11.5
7	2.5	0.0	5.5	1.5	17.5	11.5	17.0	14.0	16.5	13.0	---	---
8	3.5	0.0	6.5	2.0	18.0	14.0	17.0	13.0	16.0	13.5	---	---
9	3.0	0.0	7.0	3.0	14.5	11.0	17.0	13.5	17.5	12.5	---	---
10	6.0	1.5	8.5	3.5	14.5	8.5	16.5	13.5	17.0	12.0	---	---
11	4.0	1.5	9.0	5.5	12.5	9.0	19.0	13.5	19.0	14.5	---	---
12	2.5	0.5	8.5	6.0	10.5	8.5	18.5	16.0	20.5	15.5	---	---
13	1.0	0.0	8.0	6.5	14.5	9.5	20.5	14.5	18.5	16.0	14.5	13.5
14	3.5	0.5	9.0	6.5	15.5	12.5	20.5	15.5	---	---	14.5	11.0
15	4.5	0.5	11.0	6.5	14.0	11.5	20.5	15.0	---	---	15.0	11.5
16	4.5	0.5	13.0	8.0	15.0	9.5	18.0	14.5	---	---	13.0	10.5
17	1.5	0.5	14.5	9.5	15.5	9.0	17.0	14.5	---	---	13.0	11.0
18	1.0	0.5	15.0	11.5	17.0	9.0	20.5	14.0	21.0	17.0	14.5	11.0
19	2.0	0.5	16.0	11.5	15.0	12.0	21.5	15.5	21.5	16.5	14.0	10.5
20	2.0	0.0	16.0	12.5	13.5	10.5	20.5	17.0	20.5	16.5	15.0	13.0
21	0.5	0.0	16.0	12.0	13.0	9.5	19.0	16.0	20.0	18.0	14.5	10.0
22	0.5	0.0	16.0	11.0	14.5	13.0	18.0	15.5	---	---	11.5	8.5
23	1.0	0.0	16.5	12.0	12.5	10.5	20.5	16.5	---	---	11.5	8.0
24	3.0	0.0	17.5	12.5	16.0	10.0	21.0	17.0	---	---	12.5	9.5
25	3.0	0.0	17.0	12.5	17.5	11.5	20.0	16.5	---	---	12.5	10.0
26	3.0	0.0	17.5	12.5	19.0	12.5	19.5	15.5	---	---	11.0	10.0
27	2.0	0.0	17.5	12.5	19.0	12.5	19.5	14.0	---	---	10.5	8.5
28	1.5	0.0	18.5	13.0	16.5	13.5	18.0	15.0	---	---	10.5	9.5
29	1.5	0.0	15.5	9.5	18.5	13.0	19.5	15.0	---	---	10.5	9.0
30	1.0	0.0	12.5	8.5	19.0	13.0	21.5	16.0	---	---	9.5	8.5
31	---	---	12.5	8.5	---	---	22.0	17.0	19.5	16.5	---	---
MONTH	6.0	0.0	18.5	0.0	19.0	8.5	22.0	10.0	---	---	18.0	8.0
YEAR	22.0	0.0										

04043050 TRAP ROCK RIVER NEAR LAKE LINDEN, MICH.--Continued

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	8.0	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	10.0	7.5	4.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
3	10.0	9.5	3.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0
4	12.0	9.5	3.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
5	12.0	11.0	4.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
6	11.0	9.0	4.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.0
7	9.5	7.5	4.5	4.0	0.5	0.0	0.5	0.0	0.0	0.0	2.5	0.5
8	9.0	7.0	4.0	3.0	0.5	0.0	0.5	0.0	0.0	0.0	0.5	0.0
9	7.5	5.5	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	8.0	6.5	4.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
11	10.0	8.0	4.0	3.5	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0
12	8.5	7.0	3.5	2.5	[illegible]	0.0	0.0	0.0	0.0	0.0	0.5	0.0
13	9.0	8.0	2.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
14	8.5	6.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
15	8.5	4.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
16	6.5	4.5	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
17	4.5	2.5	2.0	1.5	0.0	0.0	0.0	0.0	0.5	0.0	1.0	0.0
18	3.5	2.5	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
19	4.0	3.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0
20	4.0	2.0	2.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
21	4.5	4.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
22	5.0	4.5	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0
23	5.0	4.0	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
24	4.0	2.5	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.0
25	5.0	3.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.0
26	7.0	5.0	2.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
27	8.0	6.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
28	8.0	5.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.5
29	5.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	2.5	0.5
30	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	3.5	0.5
31	4.5	4.0	---	---	0.0	0.0	0.0	0.0	---	---	3.5	0.5
MONTH	12.0	2.0	4.5	0.0	0.5	0.0	0.5	0.0	0.5	0.0	3.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	2.5	1.5	9.0	6.0	14.5	11.5	19.5	12.5	17.5	12.0	21.5	16.5
2	1.5	1.5	6.0	2.0	17.0	11.5	19.0	14.5	18.5	13.0	20.5	17.5
3	1.5	1.5	3.0	1.5	15.0	12.5	20.5	14.5	19.0	13.0	19.5	17.0
4	4.0	2.0	7.5	2.5	18.5	12.0	18.5	14.5	19.0	13.0	20.5	17.0
5	3.0	1.0	9.0	4.0	18.5	15.0	20.0	13.5	19.0	15.5	18.5	16.0
6	5.0	1.0	9.0	6.0	20.0	14.5	22.0	14.5	18.0	15.0	16.0	13.0
7	4.5	2.5	8.5	7.0	17.5	14.0	20.5	17.0	17.5	15.5	15.5	11.5
8	4.0	1.5	8.0	7.0	15.5	12.0	22.0	16.5	17.0	15.5	14.0	10.5
9	3.5	1.5	10.5	7.5	17.5	12.5	19.5	16.0	18.5	15.5	15.0	9.5
10	4.5	1.0	10.5	8.5	16.0	14.0	20.5	14.5	18.0	16.0	16.5	12.0
11	4.0	1.5	9.0	5.0	18.5	14.0	20.0	13.5	18.5	15.5	15.5	12.0
12	5.5	2.5	8.5	7.0	19.0	14.5	18.5	15.5	19.5	15.0	14.5	11.0
13	6.0	2.0	10.0	6.5	19.0	13.5	20.5	15.0	17.0	14.5	12.0	9.5
14	7.5	3.0	9.5	7.0	17.0	13.5	19.0	14.5	16.0	14.0	14.0	11.0
15	6.5	4.0	9.0	6.5	18.5	12.5	19.5	13.5	17.5	13.5	12.5	11.0
16	4.0	2.5	8.5	7.5	17.0	13.0	19.5	13.0	18.0	14.5	12.5	9.5
17	5.0	1.5	11.5	6.5	13.0	11.5	20.5	14.5	18.5	14.5	11.5	8.5
18	7.5	3.5	11.5	8.5	15.0	12.0	20.0	16.0	20.0	15.0	12.5	8.5
19	7.0	5.0	14.5	9.0	18.0	13.0	21.0	15.5	18.5	16.0	10.5	9.0
20	7.5	6.5	15.5	11.0	17.0	14.5	19.0	15.0	18.0	15.5	10.5	7.5
21	11.0	7.5	16.5	11.0	18.5	14.0	19.0	13.5	17.5	13.5	8.5	7.0
22	10.5	7.5	16.0	11.5	17.0	14.5	19.5	14.0	15.5	12.5	9.5	8.5
23	7.5	6.0	15.5	11.5	16.5	12.0	18.5	14.0	18.0	13.5	9.5	9.0
24	9.0	5.0	14.0	10.5	19.5	12.5	19.0	15.0	17.0	11.5	12.5	9.0
25	8.5	5.5	10.5	10.0	17.5	14.5	20.0	16.0	15.5	13.5	14.0	11.0
26	9.5	5.5	12.5	10.5	19.5	13.5	19.0	16.5	17.5	14.5	12.5	11.0
27	9.5	6.0	15.5	11.0	17.5	15.0	18.0	13.5	19.5	15.5	13.0	11.5
28	10.0	6.0	14.0	12.0	15.0	13.5	18.0	12.5	21.5	16.0	13.0	10.0
29	10.0	5.5	15.5	9.5	13.0	12.5	18.0	12.5	20.5	17.5	13.0	10.5
30	11.5	7.0	15.0	10.5	14.5	12.0	17.0	14.0	19.5	17.0	12.0	8.5
31	---	---	16.0	12.5	---	---	14.0	12.0	20.0	16.0	---	---
MONTH	11.5	1.0	16.5	1.5	20.0	11.5	22.0	12.0	21.5	11.5	21.5	7.0
YEAR	22.0	0.0										

04043250 SALMON TROUT RIVER NEAR BIG BAY, MICH.

LOCATION.--Lat 46°50'36", long 87°47'37", in NW¼ NE¼ sec.1, T.51 N., R.28 W., Marquette County, at bridge on County Road 550, 3.5 mi (5.6 km) NE of Big Bay, 3.1 mi (5.0 km) above mouth.
DRAINAGE AREA.--37.8 mi^2 (97.9 km^2).
PERIOD OF RECORD.--Water temperatures: June 1971 to September 1973.
EXTREMES.--October to November 7, May 10 to September, 1972:
Water temperatures: Maximum, 19.0°C July 1, 21.
October to Nov. 25, May to September, 1973:
Water temperatures: Maximum, 20.°C July 8, 9, Sept. 2.
Period of record:
Water temperatures: Maximum, 24.0°C Aug. 9, 10, 1971.
REMARKS.--Maximum-minimum water temperatures read daily between 0500 and 0800 during summer months by personnel of Huron Mountain Club.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.5	14.5	8.0	4.5	---	---	---	---	---	---	---	---
2	14.5	12.0	6.5	4.5	---	---	---	---	---	---	---	---
3	16.5	13.5	5.5	4.5	---	---	---	---	---	---	---	---
4	18.5	13.0	4.5	3.5	---	---	---	---	---	---	---	---
5	12.0	11.0	4.5	3.5	---	---	---	---	---	---	---	---
6	11.0	9.0	3.5	1.0	---	---	---	---	---	---	---	---
7	11.0	9.0	6.5	0.0	---	---	---	---	---	---	---	---
8	11.0	9.0	---	---	---	---	---	---	---	---	---	---
9	11.0	9.0	---	---	---	---	---	---	---	---	---	---
10	11.0	9.0	---	---	---	---	---	---	---	---	---	---
11	12.0	8.5	---	---	---	---	---	---	---	---	---	---
12	13.0	7.0	---	---	---	---	---	---	---	---	---	---
13	13.5	7.0	---	---	---	---	---	---	---	---	---	---
14	12.0	8.0	---	---	---	---	---	---	---	---	---	---
15	12.0	9.0	---	---	---	---	---	---	---	---	---	---
16	12.0	8.0	---	---	---	---	---	---	---	---	---	---
17	9.0	5.5	---	---	---	---	---	---	---	---	---	---
18	11.0	9.0	---	---	---	---	---	---	---	---	---	---
19	14.5	11.0	---	---	---	---	---	---	---	---	---	---
20	11.0	9.0	---	---	---	---	---	---	---	---	---	---
21	11.0	10.0	---	---	---	---	---	---	---	---	---	---
22	11.0	10.0	---	---	---	---	---	---	---	---	---	---
23	10.0	9.0	---	---	---	---	---	---	---	---	---	---
24	11.0	9.0	---	---	---	---	---	---	---	---	---	---
25	10.0	10.0	---	---	---	---	---	---	---	---	---	---
26	11.0	10.0	---	---	---	---	---	---	---	---	---	---
27	12.0	8.5	---	---	---	---	---	---	---	---	---	---
28	10.0	10.0	---	---	---	---	---	---	---	---	---	---
29	12.0	7.0	---	---	---	---	---	---	---	---	---	---
30	13.5	6.5	---	---	---	---	---	---	---	---	---	---
31	9.0	4.0	---	---	---	---	---	---	---	---	---	---
MONTH	18.5	4.0	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	11.5	8.0	19.0	16.5	18.5	14.0	16.5	14.5
2	---	---	---	---	14.5	11.0	18.0	12.0	18.0	13.5	16.5	12.0
3	---	---	---	---	16.0	10.0	14.5	10.0	16.5	12.0	14.5	9.0
4	---	---	---	---	13.5	12.0	12.0	11.0	15.5	11.0	11.5	8.5
5	---	---	---	---	12.0	12.0	14.0	11.0	14.5	12.0	12.0	10.0
6	---	---	---	---	13.0	11.0	14.5	11.0	15.0	11.0	13.0	9.5
7	---	---	---	---	13.5	13.5	15.0	11.0	14.0	11.0	12.0	12.0
8	---	---	---	---	17.0	13.5	13.0	11.0	14.0	10.0	13.5	11.0
9	---	---	---	---	11.5	13.0	14.5	11.0	12.0	10.0	13.0	11.0
10	---	---	5.5	3.5	9.0	8.0	14.5	11.0	13.5	10.0	13.5	11.0
11	---	---	8.0	3.5	11.0	11.0	15.0	12.0	13.5	10.0	12.0	9.5
12	---	---	8.0	5.0	10.0	8.0	15.5	12.0	14.0	12.0	13.5	11.0
13	---	---	6.5	5.5	11.0	10.0	18.0	15.0	14.0	13.5	12.0	11.0
14	---	---	8.0	5.5	15.5	10.0	19.0	15.0	15.0	13.5	12.0	10.5
15	---	---	8.0	6.5	13.5	13.5	18.0	15.0	11.5	11.5	13.0	10.5
16	---	---	9.0	6.5	15.5	10.0	18.5	15.0	15.5	11.0	13.0	9.5
17	---	---	12.0	8.0	14.0	9.0	14.5	12.0	16.0	14.0	10.0	8.0
18	---	---	14.5	10.0	15.5	10.0	15.0	13.5	18.0	14.0	11.5	9.5
19	---	---	14.5	11.0	15.5	10.0	18.0	13.5	18.0	14.0	11.0	9.0
20	---	---	16.5	10.0	15.5	10.0	18.5	14.5	18.0	14.5	12.0	8.0
21	---	---	18.0	12.0	15.5	9.5	19.0	15.0	18.0	14.0	14.0	10.0
22	---	---	18.0	11.0	15.5	9.0	14.5	14.0	18.5	15.5	13.5	8.0
23	---	---	13.5	11.0	13.5	10.0	15.5	14.5	16.0	14.5	13.5	7.0
24	---	---	18.0	12.0	11.0	9.0	19.0	15.5	13.5	11.0	9.0	8.0
25	---	---	18.0	13.5	12.0	12.0	15.0	14.5	13.0	11.0	11.0	9.0
26	---	---	18.0	13.5	15.0	9.0	17.0	13.5	12.0	11.0	11.0	9.0
27	---	---	18.0	13.5	13.5	12.0	17.0	12.0	12.0	11.5	9.5	8.5
28	---	---	19.0	13.5	15.5	13.5	16.5	12.0	15.5	11.5	9.5	8.0
29	---	---	18.0	14.5	18.0	13.5	14.0	12.0	16.5	12.0	10.0	8.0
30	---	---	8.0	9.0	18.0	13.5	16.0	12.0	15.5	13.0	9.0	6.5
31	---	---	8.0	8.0	---	---	17.0	13.5	18.5	13.5	---	---
MONTH	---	---	---	---	18.0	8.0	19.0	10.0	18.5	10.0	16.5	6.5
YEAR	19.0	0.0										

04043250 SALMON TROUT RIVER NEAR BIG BAY, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER, 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.0	5.5	6.0	3.0	---	---	---	---	---	---	---	---
2	9.0	6.5	5.5	3.5	---	---	---	---	---	---	---	---
3	10.0	6.5	4.5	2.0	---	---	---	---	---	---	---	---
4	11.0	8.0	2.0	2.0	---	---	---	---	---	---	---	---
5	10.0	8.5	3.5	2.0	---	---	---	---	---	---	---	---
6	10.0	8.5	4.5	3.5	---	---	---	---	---	---	---	---
7	9.0	6.5	5.5	4.5	---	---	---	---	---	---	---	---
8	8.0	6.5	6.0	4.5	---	---	---	---	---	---	---	---
9	8.0	5.5	5.5	4.0	---	---	---	---	---	---	---	---
10	6.5	5.5	6.5	3.5	---	---	---	---	---	---	---	---
11	7.0	4.5	4.5	4.0	---	---	---	---	---	---	---	---
12	9.0	6.5	5.5	4.0	---	---	---	---	---	---	---	---
13	8.0	5.5	4.5	2.0	---	---	---	---	---	---	---	---
14	8.0	5.0	2.0	1.0	---	---	---	---	---	---	---	---
15	6.5	4.5	1.0	0.5	---	---	---	---	---	---	---	---
16	6.5	4.0	1.5	0.0	---	---	---	---	---	---	---	---
17	6.5	3.5	1.0	0.0	---	---	---	---	---	---	---	---
18	2.0	1.0	2.0	1.0	---	---	---	---	---	---	---	---
19	1.0	0.0	2.0	0.5	---	---	---	---	---	---	---	---
20	3.5	1.0	2.0	0.0	---	---	---	---	---	---	---	---
21	3.5	1.0	1.5	0.0	---	---	---	---	---	---	---	---
22	4.5	1.0	1.0	0.0	---	---	---	---	---	---	---	---
23	4.5	4.0	0.5	0.0	---	---	---	---	---	---	---	---
24	4.5	2.0	0.5	0.0	---	---	---	---	---	---	---	---
25	6.0	3.0	0.5	0.0	---	---	---	---	---	---	---	---
26	6.5	3.5	---	---	---	---	---	---	---	---	---	---
27	6.0	2.0	---	---	---	---	---	---	---	---	---	---
28	6.5	6.0	---	---	---	---	---	---	---	---	---	---
29	6.5	4.0	---	---	---	---	---	---	---	---	---	---
30	5.0	3.0	---	---	---	---	---	---	---	---	---	---
31	4.0	2.0	---	---	---	---	---	---	---	---	---	---
MONTH	11.0	0.0	6.5	0.0	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	10.0	5.5	14.5	10.5	12.0	11.0	13.5	12.0	18.0	16.5
2	---	---	5.5	1.0	11.0	9.0	14.0	12.0	13.5	13.0	20.0	16.5
3	---	---	5.5	0.0	14.5	9.0	16.0	14.0	15.0	11.5	19.0	18.0
4	---	---	5.5	0.0	13.5	11.0	15.5	13.5	15.5	12.0	18.0	18.0
5	---	---	5.5	2.0	14.5	12.0	15.0	13.5	15.5	12.0	18.0	16.5
6	---	---	6.5	3.5	14.5	13.0	18.0	13.5	15.5	14.5	17.0	16.0
7	---	---	8.0	5.5	15.0	13.5	18.0	15.5	15.5	15.5	16.5	12.0
8	---	---	8.0	6.5	14.5	11.0	20.0	16.5	16.0	15.0	11.0	10.0
9	---	---	6.5	6.5	12.0	11.0	20.0	16.5	16.0	15.5	11.0	9.0
10	---	---	7.0	6.5	14.5	10.5	16.5	14.5	16.0	15.5	11.0	9.0
11	---	---	8.0	6.5	14.5	12.0	12.0	12.0	16.0	15.5	13.5	12.0
12	---	---	8.0	6.5	15.5	12.0	14.5	13.5	14.5	13.5	13.5	12.0
13	---	---	6.5	3.0	16.0	13.0	15.5	12.0	15.5	14.5	12.0	11.5
14	---	---	8.0	4.5	15.5	12.0	18.0	13.5	14.5	14.5	12.0	9.0
15	---	---	8.0	6.5	15.5	12.0	16.5	13.5	14.5	14.5	10.0	11.0
16	---	---	8.5	5.5	14.5	12.0	16.5	13.0	14.0	13.5	9.5	9.0
17	---	---	9.5	6.0	13.0	11.0	15.5	12.0	15.5	13.5	8.0	6.5
18	---	---	10.0	6.5	12.0	11.0	18.0	13.5	16.0	13.5	8.0	6.5
19	---	---	10.0	8.0	13.5	11.0	15.5	5.5	15.5	14.5	7.0	6.0
20	---	---	12.0	9.0	15.5	13.0	18.0	15.5	16.5	15.5	7.0	6.5
21	---	---	14.5	9.0	16.0	13.5	15.5	12.0	15.5	13.5	6.5	5.5
22	---	---	14.0	9.0	14.5	13.0	15.5	12.0	16.0	12.0	8.0	4.5
23	---	---	13.5	5.0	13.5	10.0	15.5	12.0	16.5	13.0	9.0	6.5
24	---	---	10.0	7.0	13.5	10.0	14.5	12.0	14.5	11.0	9.0	8.0
25	---	---	13.5	9.0	14.5	10.0	16.0	14.5	13.5	11.0	10.0	8.0
26	---	---	10.0	9.0	11.0	9.0	15.5	15.0	15.5	12.0	10.5	9.0
27	---	---	12.0	10.0	15.5	14.0	18.0	15.5	15.5	13.5	11.0	9.0
28	---	---	14.5	11.0	15.0	13.5	14.5	13.5	16.5	13.5	12.0	10.0
29	---	---	12.0	10.0	14.5	11.0	13.5	12.0	18.0	16.0	11.0	10.0
30	---	---	13.0	10.0	11.0	10.0	14.5	17.0	17.0	15.5	10.0	8.0
31	---	---	16.5	11.0	---	---	13.5	12.0	18.0	16.5	---	---
MONTH	---	---	16.5	0.0	16.0	9.0	20.0	5.5	18.0	11.0	20.0	4.5
YEAR	20.0	0.0										

04044100 LAKE SUPERIOR AT MARQUETTE, MICH.

LOCATION.--Lat 46°32'41", long 87°21'30", in sec. 24, T.48 N., R.25 W., Marquette County, in Marquette at municipal raw-water intake.
PERIOD OF RECORD.--Chemical analyses: August 1972 to June 1973 (discontinued).
REMARKS.--Station operated as part of the Environmental Protection Agency (EPA) national network. Samples collected at raw-water tap of Marquette water-treatment plant. Intake is 2,300 ft (700 m) out from Lighthouse Point at Marquette.

CHEMICAL ANALYSES, AUGUST 1972 to JUNE, 1973

DATE	TIME	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL RESI-DUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)
AUG., 1971											
07...	1000	3.2	3.0	.20	.03	.17	.01	--	63	64	1
SEP.											
13...	1030	3.4	4.0	.20	.14	.16	.01	.01	56	62	6
NOV.											
01...	0930	6.2	2.0	.20	.02	.10	.01	--	47	62	15
DEC.											
04...	1600	5.0	1.5	.20	.03	.03	.01	.01	60	72	12
JAN., 1972											
24...	1100	3.4	2.0	.20	.00	.01	.01	--	52	54	2
MAR.											
08...	1000	3.0	1.5	.30	.01	.09	.01	.01	63	63	0
20...	1300	3.2	2.5	.20	.00	.03	.02	.02	45	51	6
APR.											
04...	1130	3.0	6.0	.30	.05	.09	.01	--	57	57	0
MAY											
16...	1400	11	3.0	.30	.06	.16	.01	--	60	72	0
JUNE											
06...	1100	2.6	4.0	.20	.02	.00	.00	.00	49	49	0
29...	1030	3.4	2.0	.10	.00	.09	--	--	48	78	30

DATE	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	COM-PLETE COLI-FORM (MPN)	AIR TEMPER-ATURE (DEG C)	OIL-GREASE (SEVER-ITY)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)	TOTAL MERCURY (HG) (UG/L)
AUG., 1971											
07...	92	7.8	14.5	0	12.4	123	4	18.5	0	0	<.5
SEP.											
13...	92	7.7	10.0	1	15.5	140	9	15.0	0	0	--
NOV.											
01...	93	7.2	6.5	2	11.9	99	9	3.5	0	0	--
DEC.											
04...	90	7.5	2.5	2	12.7	81	9	-10.0	0	0	--
JAN., 1972											
24...	93	7.5	.5	1	13.2	93	4	1.0	0	0	<.5
MAR.											
08...	[illegible]	7.5	1.0	10	13.6	98	4	.5	0	1	--
20...	95	7.5	1.0	9	13.2	95	<3	2.0	0	0	--
APR.											
04...	92	7.4	1.5	3	13.1	96	4	-1.0	0	0	<.5
MAY											
16...	93	7.5	3.5	3	12.9	98	9	.5	0	0	--
JUNE											
06...	93	7.8	4.0	2	12.5	97	3	20.5	0	0	.7
29...	92	8.0	8.0	2	11.0	94	<3	15.5	0	0	--

04043580 ST. MARYS RIVER ABOVE SAULT STE. MARIE, MICH.
(Radiochemical station)

LOCATION.--Lat 46°29'29", long 84°25'17", in NW¼ sec.10, T.47 N., R.1 W., Chippewa County, at Sault Ste. Marie municipal raw-water intake at Big Point, 1 mi (1.6 km) west of Sault Ste Marie.

PERIOD OF RECORD.--Chemical analyses: October 1969 to September 1973.

REMARKS.--Station operated as part of the Environmental Protection Agency (EPA) national network October 1969 to July 1973. Weekly chemical analyses furnished by City of Sault Ste. Marie Water Department. Weekly specific conductance and monthly, quarterly and semi-annual parameters analyzed by U.S. Geological Survey. Station operated by the former Federal Water Quality Administration (now EPA) during the period November 1959 to September 1969. Discharge records for St. Marys River are available from U.S. Department of Commerce, National Ocean Survey, Detroit, Mich.

CHEMICAL ANALYSES WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	TIME	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	HARD-NESS (CA,MG) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	DELAYED COLI-FORM (COL-ONIES PER 100 ML)
OCT.												
04...	0800	42	2.0	48	94	7.7	15.0	0	10.0	102	4	K24
11...	0800	42	1.0	48	94	7.7	14.1	0	10.0	98	4	K12
18...	0740	41	1.0	48	94	7.6	13.5	0	10.9	106	3	K2
25...	0845	42	1.0	48	95	7.7	14.0	0	10.3	98	3	K20
NOV.												
01...	0810	41	1.0	48	91	7.6	12.6	0	11.3	107	2	K36
08...	0840	39	1.0	47	93	7.6	8.7	0	12.2	104	2	K5
15...	0740	40	1.0	48	93	7.6	8.0	0	12.1	103	3	<1
22...	0835	39	1.0	49	92	7.5	7.0	0	12.2	104	2	K1
29...	0815	40	1.0	49	94	7.6	7.6	0	12.1	102	3	K5
DEC.												
06...	0725	40	1.0	49	--	7.4	6.5	0	12.8	106	4	K1
13...	0720	41	1.0	48	92	7.7	5.3	0	12.9	98	5	K19
20...	0800	41	1.0	48	92	7.7	4.5	0	13.0	99	5	K9
27...	0730	40	1.0	48	92	7.4	3.6	0	14.1	94	1	K2
JAN.												
03...	0745	41	1.0	48	93	7.3	3.3	0	14.1	106	5	<1
10...	0720	40	1.0	48	93	7.5	2.5	0	14.6	107	3	K2
17...	0720	41	1.0	48	95	7.3	2.9	0	14.9	111	5	K2
24...	0830	42	1.0	49	94	7.4	3.1	0	15.0	115	4	<1
31...	0830	40	1.0	48	93	7.3	2.0	0	15.1	113	8	K2
FEB.												
07...	0815	40	1.0	48	94	7.3	2.0	0	14.2	106	5	<1
14...	0820	40	1.0	48	94	7.4	2.3	0	14.2	104	1	K1
21...	0800	41	1.0	47	98	7.3	3.8	0	14.3	108	5	K2
28...	0815	42	1.0	48	93	7.4	3.9	0	14.3	108	6	K1
MAR.												
06...	0810	41	1.0	49	96	7.3	2.4	0	14.4	106	6	K1
13...	0825	41	1.0	48	93	7.4	2.0	0	14.3	105	2	K1
20...	0830	42	1.0	48	96	7.3	2.4	0	13.9	104	4	<1
27...	0830	43	1.0	49	95	7.4	2.5	0	13.9	104	2	K1
APR.												
03...	0830	41	1.0	50	95	7.4	2.5	0	14.0	104	2	K7
10...	0830	42	1.0	50	98	7.5	1.7	0	14.0	103	3	K2
17...	0830	43	1.0	50	92	7.4	2.0	0	14.1	104	2	2
24...	0830	37	1.0	49	87	7.2	2.9	0	13.7	103	5	K23
MAY												
01...	0830	37	2.0	49	90	7.3	3.7	0	13.7	104	7	K15
08...	0830	38	1.0	50	90	7.2	3.4	0	13.8	104	6	K7
15...	0845	37	1.0	49	91	7.3	4.5	0	13.7	108	6	1
22...	0750	40	1.0	49	91	7.4	7.3	0	13.7	114	4	K8
30...	0800	40	1.0	49	92	7.4	7.0	0	13.7	114	2	K6
JUNE												
05...	0820	40	1.0	50	92	7.5	8.8	0	13.5	115	2	K1
12...	0815	40	1.0	49	92	7.4	11.1	0	13.4	123	3	5
19...	0720	41	1.0	48	94	7.6	11.5	0	12.5	114	2	K1
26...	0820	42	1.0	50	93	7.6	12.2	0	11.6	114	4	K11
JULY												
03...	0820	41	1.0	49	92	7.5	12.9	0	11.6	114	1	4
10...	0730	40	1.0	48	91	7.7	15.5	0	11.1	116	4	K3
17...	0715	39	1.0	49	91	7.7	14.0	0	11.2	112	5	K2
24...	0720	40	1.0	50	91	7.7	14.0	0	11.2	111	9	K19
31...	0730	39	1.0	49	91	7.8	17.6	0	10.2	107	5	12
AUG.												
07...	0720	40	1.0	48	91	7.7	16.7	0	10.4	108	6	96
14...	0730	40	1.0	47	91	7.8	15.8	0	10.2	102	3	K26
21...	0730	40	1.0	48	91	7.7	15.7	0	10.0	104	4	10
28...	0730	40	1.0	48	90	7.7	15.2	0	10.0	101	4	K11
SEP.												
04...	0740	39	1.0	49	91	7.6	17.4	0	9.9	106	5	K13
11...	0720	40	1.0	48	91	7.7	16.9	0	10.0	108	4	K8
18...	0725	41	1.0	46	96	7.6	15.2	0	9.9	100	2	K7
25...	0720	40	1.0	50	93	7.6	13.0	0	10.0	97	2	K84

04045580 ST. MARYS RIVER ABOVE SAULT STE. MARIE, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972.--Continued

DATE	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L)
OCT.								
04...	--	--	--	.20	--	--	.10	.09
NOV.								
01...	--	--	--	.20	--	--	.10	.10
DEC.								
06...	1.2	.6	--	.20	.00	.10	.10	.08
13...	--	--	3.6	--	--	--	--	--
JAN.								
03...	--	--	--	.20	--	--	.20	.10
FEB.								
07...	--	--	--	.20	--	--	.13	.08
MAR.								
06...	--	--	3.2	.30	.00	.00	.07	.02
APR.								
03...	--	--	--	.20	--	--	.06	.03
MAY								
01...	--	--	--	.30	--	--	.04	.04
JUNE								
05...	1.2	3.0	3.2	.20	.05	.13	.10	.07
JULY								
03...	--	--	--	.20	--	--	.01	.00
AUG.								
07...	--	--	--	.20	--	--	.09	--
SEP.								
04...	--	--	3.4	.20	.00	.05	.11	.11

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL RESI-DUE (MG/L)	TUR-BID-ITY (JTU)	PHENOLS (UG/L)	CYANIDE (CN) (MG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)
OCT.							
04...	--	--	--	0	0	--	--
NOV.							
01...	--	--	--	1	3	--	--
DEC.							
06...	--	--	--	--	5	.02	1
13...	49	9	58	15	--	--	--
JAN.							
03...	--	--	--	7	1	--	--
FEB.							
07...	--	--	--	--	0	--	--
MAR.							
06...	69	1	70	5	0	--	--
APR.							
03...	--	--	--	0	2	--	--
MAY							
01...	--	--	--	2	3	--	--
JUNE							
05...	57	2	59	0	3	.00	2
JULY							
03...	--	--	--	0	--	--	--
AUG.							
07...	--	--	--	1	4	--	--
SEP.							
04...	55	19	74	1	6	--	--

DATE	TOTAL FILT-RABLE RESIDUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)	DIS-SOLVED URANIUM (U) (UG/L)
DEC.										
14...	54	<1	<.5	<.4	2.8	<.4	2.2	<.4	.03	.05
JAN.										
13...	54	<1	.4	<.4	2.9	<.4	2.3	<.4	.04	.06
FEB.										
08...	53	<1	1.7	<.4	2.9	<.4	2.3	<.4	.03	.06
MAR.										
29...	53	<1	.7	<.4	2.3	<.4	1.8	<.4	.03	.07
APR.										
10...	53	1	.7	<.4	2.7	.5	2.1	.4	.02	.08
MAY										
09...	54	<1	.7	<.4	2.4	.5	1.9	.5	.03	.11
JUNE										
13...	52	1	.8	<.4	2.5	<.4	2.0	<.4	.03	.13
AUG.										
02...	52	2	1.2	<.4	2.4	.5	1.9	.5	.06	.11
SEP.										
06...	63	<1	1.1	<.4	2.2	<.4	1.7	<.4	--	.13

STREAMS TRIBUTARY TO ST. MARYS RIVER

04045580 ST. MARYS RIVER ABOVE SAULT STE. MARIE, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	TIME	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	DELAYED COLIFORM (COLONIES PER 100 ML)
OCT.												
02...	0710	40	1.0	50	95	7.5	12.2	0	10.0	95	3	B50
09...	0720	40	1.0	50	92	7.5	10.5	0	10.5	95	[illegible]	B106
16...	0725	41	1.0	50	92	7.6	9.5	0	11.2	100	3	B19
24...	0730	40	1.0	50	92	7.6	9.2	0	11.[illegible]	97	3	B1
30...	0715	42	1.0	49	92	7.6	8.5	0	11.8	103	2	B7
NOV.												
06...	0725	41	1.0	49	92	7.6	8.4	0	11.7	101	3	B2
13...	0730	40	1.0	50	92	7.4	7.6	0	12.1	102	4	B3
20...	0730	41	1.0	50	93	7.5	6.7	0	12.2	102	4	B1
27...	0740	40	1.0	49	92	7.4	6.5	0	12.4	103	3	B1
DEC.												
04...	0735	40	1.0	52	92	7.4	4.3	0	13.1	103	3	< 1
11...	0740	41	1.0	51	92	7.4	2.8	0	13.9	105	3	<1
18...	0720	40	1.0	50	94	7.4	2.2	0	13.8	103	3	B2
26...	0620	41	1.0	50	92	7.4	2.5	0	13.9	105	3	<1
JAN.												
02...	0800	42	1.0	47	92	7.4	1.5	0	14.1	104	4	<1
08...	0620	41	1.0	47	94	7.4	1.3	0	14.2	104	4	<1
15...	0720	40	1.0	48	94	7.4	1.5	0	14.0	103	4	B1
22...	0740	42	1.0	47	94	7.4	1.5	0	14.3	105	2	B9
29...	0725	41	1.0	47	93	7.3	1.5	0	14.2	104	2	B1
FEB.												
05...	0740	42	1.0	47	94	7.3	1.6	0	14.2	104	3	<1
12...	0720	41	1.0	47	94	7.2	1.5	0	14.4	106	6	<1
20...	0735	41	1.0	48	94	7.4	1.6	0	14.5	107	4	<1
26...	0730	42	1.0	47	95	7.3	1.5	0	14.6	107	3	<1
MAR.												
05...	0745	41	1.0	48	94	7.3	1.7	0	14.2	104	7	<1
12...	0740	42	1.0	46	95	7.4	1.9	0	14.2	104	2	<1
19...	0745	40	1.0	47	94	--	1.7	0	14.3	105	4	B5
26...	0720	41	1.0	46	93	7.3	2.3	0	14.4	107	2	<1
APR.												
02...	0800	40	1.0	47	92	7.3	2.8	0	14.3	108	3	B8
09...	0745	40	1.0	46	93	7.4	2.9	0	14.5	111	4	<1
16...	0750	41	1.0	46	92	7.5	3.3	0	14.1	108	3	B2
23...	0755	41	1.0	46	92	7.4	5.5	0	13.5	111	3	B3
30...	0805	40	1.0	47	92	7.4	5.8	0	13.3	110	4	B2
MAY												
07...	0810	41	1.0	47	91	7.4	6.1	0	13.1	108	3	B8
14...	0805	41	1.0	46	93	7.5	6.7	0	12.9	108	5	B1
21...	0745	40	1.0	47	93	7.3	8.4	0	12.5	110	5	B3
29...	0805	41	1.0	47	88	7.4	8.2	0	12.7	109	4	B8
JUNE												
04...	0825	41	1.0	48	91	7.3	8.3	0	12.9	113	5	B5
11...	0755	40	2.0	48	92	7.5	9.4	0	13.0	117	2	B2
18...	0745	40	1.0	47	91	7.4	11.4	0	12.2	120	3	11
25...	0740	40	1.0	48	90	7.4	10.5	0	12.2	113	3	B5
JULY												
02...	0745	41	1.0	48	91	7.4	11.7	0	12.1	114	3	30
09...	0805	40	2.0	47	--	7.5	16.6	0	10.4	109	3	--
21...	0745	40	1.0	47	--	7.3	--	--	--	--	--	--

04045580 ST. MARYS RIVER ABOVE SAULT STE. MARIE, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L)
OCT. 02...	--	--	--	.20	--	--	.08	--
NOV. 06...	--	--	--	.30	--	--	.22	--
DEC. 04...	--	--	--	.30	--	--	.59	--
JAN. 02...	1.3	.1	3.6	.30	.00	.01	.10	.09
FEB. 05...	--	--	--	.30	--	--	.04	--
MAR. 05...	--	--	3.4	.20	.03	.01	.06	.03
APR. 02...	--	--	--	.60	--	--	.56	--
MAY 07...	--	--	--	.30	--	--	.01	--
JUNE 04...	--	--	3.0	.20	.02	.20	.73	.56
JULY 02...	.9	.5	3.4	.20	.01	.05	.00	.00

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL RESI-DUE (MG/L)	TUR-BID-ITY (JTU)	PHENOLS (UG/L)	CYANIDE (CN) (MG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)
OCT. 02...	--	--	--	1	5	--	--
NOV. 06...	--	--	--	20	3	--	--
DEC. 04...	--	--	--	3	6	--	--
JAN. 02...	64	6	70	1	6	.00	--
FEB. 05...	--	--	--	1	2	--	--
MAR. 05...	54	3	57	1	34	--	--
APR. 02...	--	--	--	2	3	--	--
MAY 07...	--	--	--	2	10	--	--
JUNE 04...	48	8	56	3	4	--	--
JULY 02...	50	32	82	2	4	.00	0

DATE	TOTAL FILT-RABLE RESIDUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)	DIS-SOLVED URANIUM (U) (UG/L)
NOV. 28...	51	1	.5	<.4	2.4	<.4	1.9	<.4	.03	.12
JAN. 11...	53	<1	<.5	<.4	2.0	<.4	1.6	<.4	.02	.06
FEB. 13...	52	<1	.9	<.4	2.0	<.4	1.6	<.4	.03	.06
MAR. 20...	54	<1	<.5	<.4	2.5	<.4	2.0	<.4	.02	.08
APR. 24...	52	<1	.8	<.4	2.2	<.4	1.8	<.4	.03	.08
MAY 30...	53	7	.7	.9	2.2	.8	1.0	.7	.01	.03
JUNE 21...	52	1	1.6	<.4	2.5	<.4	2.0	<.4	.01	.05
AUG. 01...	54	<1	1.5	<.4	2.9	<.4	2.3	<.4	.02	.07
SEP. 12...	49	1	<.6	<.4	2.6	<.4	2.1	<.4	.02	.05

04045590 ST. MARYS RIVER BELOW SAULT STE, MARIE, MICH.

LOCATION.--Lat 46°29'11", long 84°18'07", in NE¼ sec.9, T.46 N., R.1 E., Chippewa County, at right bank at ferry crossing to Sugar Island, 1.3 mi (2.1 km) southeast of Sault, Ste. Marie.

DRAINAGE AREA.--80,900 mi² (210,000 km²), approximately.

PERIOD OF RECORD.--Chemical analyses: October 1969 to July 1973 (discontinued).

REMARKS.--Samples collected monthly as part of the Environmental Protection Agency national network. Data prefaced by the letter "E" are estimates based on field analyses. Discharge records for St. Marys River are available from U.S. Department of Commerce, National Ocean Survey Detroit, Mich.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972.

DATE	TIME	DIS-CHARGE (CFS)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L)
OCT. 12...	1630	--	--	E15	.20	--	--	.14	.02
DEC. 14...	1500	--	43	2.0	.20	.00	.14	.14	.11
JAN. 13...	0845	--	--	E32	.20	--	--	.08	.03
FEB. 08...	0900	E80000	--	E40	.20	--	--	.02	.01
MAR. 29...	1500	E80000	46	5.0	.20	.00	.23	.02	.02
APR. 18...	1600	E80000	--	E15	.30	--	--	.03	.03
MAY 09...	1900	E100000	--	--	.20	--	--	.05	.03
JUNE 13...	1400	E90000	43	2.0	.20	.00	.01	.06	.03
AUG. 02...	1600	E100000	--	E7.0	.20	--	--	.03	--
SEP. 06...	1615	E80000	43	2.0	.20	.00	.10	.02	.01

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL RESI-DUE (MG/L)	TOTAL FILT-RABLE RESIDUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	HARD-NESS (CA,MG) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)
OCT. 12...	--	--	--	--	E50	97	6.9	12.0	10
DEC. 14...	51	64	51	13	46	94	7.3	.0	6
JAN. 13...	--	--	--	--	E52	93	7.2	.0	1
FEB. 08...	--	--	--	--	E51	95	7.5	.0	7
MAR. 29...	66	72	--	6	46	98	7.5	.0	1
APR. 18...	--	--	--	--	E34	96	7.3	.0	1
MAY 09...	--	--	--	--	E68	93	7.3	1.0	1
JUNE 13...	62	65	--	3	44	92	7.9	9.5	1
AUG. 02...	--	--	--	--	E51	91	7.3	17.0	15
SEP. 06...	57	82	--	25	46	91	7.5	15.5	1

DATE	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	DELAYED COLI-FORM (COL-ONIES PER 100 ML)	PHENOLS (UG/L)	AIR TEMPER-ATURE (DEG C)	OIL-GREASE (SEVER-ITY)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
OCT. 12...	10.1	95	1.4	38	1	11.5	0	0
DEC. 14...	12.4	86	1.4	B11	23	.5	0	0
JAN. 13...	13.4	93	1.8	82	2	-7.5	0	1
FEB. 08...	13.6	94	1.6	B40	1	-11.0	0	4
MAR. 29...	12.5	87	1.4	138	0	3.5	0	4
APR. 18...	12.4	86	.6	B230	0	4.5	0	1
MAY 09...	13.4	96	1.2	79	24	7.5	0	0
JUNE 13...	11.7	104	2.8	B33	2	15.5	0	0
AUG. 02...	10.0	105	1.2	--	1	18.0	0	0
SEP. 06...	10.1	102	.8	B26	4	18.5	0	0

04045500 ST. MARYS RIVER BELOW SAULT STE. MARIE, MICH.--Continued

CHEMICAL ANALYSES, OCTOBER 1972 TO SEPTEMBER 1973-Continued.

DATE	TIME	DIS-CHARGE (CFS)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L)
OCT.									
11...	1000	E86000	--	E15	.20	--	--	.02	--
NOV.									
28...	1500	E90000	--	E10	.70	--	--	.02	--
JAN.									
11...	0900	E80000	44	3.0	.20	.00	.03	.03	.02
FEB.									
13...	1230	E55000	--	E20	.20	--	--	.02	--
MAR.									
20...	1300	E55000	46	3.0	.20	.01	.08	.02	.02
28...	0830	E60000	--	E20	.20	--	--	.02	--
APR.									
24...	0810	E55000	--	E10	.80	--	--	.01	--
MAY									
30...	0830	E55000	--	E25	.20	--	--	.01	--
JUNE									
21...	0945	E58000	41	3.0	.20	.01	.00	.02	.01

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL RESI-DUE (MG/L)	TOTAL FILT-RABLE RESIDUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	HARD-NESS (CA,MG) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)
OCT.									
11...	--	--	--	--	E52	92	7.3	9.0	2
NOV.									
28...	--	--	--	--	E51	92	7.3	4.5	3
JAN.									
11...	61	90	61	29	46	98	7.6	.0	10
FEB.									
13...	--	--	--	--	E52	94	7.5	.0	2
MAR.									
20...	47	60	--	13	48	94	7.1	.5	9
28...	--	--	--	--	E50	95	7.4	1.0	3
APR.									
24...	--	--	--	--	E52	94	7.4	5.0	10
MAY									
30...	--	--	--	--	E35	95	7.1	7.5	3
JUNE									
21...	62	72	--	10	45	93	7.1	11.0	3

DATE	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	DELAYED COLI-FORM (COL-ONIES PER 100 ML)	PHENOLS (UG/L)	AIR TEMPER-ATURE (DEG C)	OIL-GREASE (SEVER-ITY)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
OCT.								
11...	11.5	99	1.4	837	3	10.0	0	0
NOV.								
28...	12.7	100	2.0	85	3	-1.0	0	0
JAN.								
11...	13.1	93	2.6	86	2	-17.0	0	4
FEB.								
13...	13.6	95	3.6	81	2	-4.0	0	4
MAR.								
20...	13.8	97	3.0	81	6	6.0	1	1
28...	13.6	98	2.5	84	4	3.0	1	0
APR.								
24...	12.5	99	2.7	817	3	3.5	1	0
MAY								
30...	10.6	90	2.2	154	2	9.0	1	0
JUNE								
21...	9.6	86	1.7	802	9	21.5	0	0

04046000 BLACK RIVER NEAR GARNET, MICH.

LOCATION.--Lat 46°07'05", long 85°21'55", in SE¼ sec.13, T.43 N., R.9 W., Mackinac County, temperature recorder at gaging station on right bank 10 feet (3m) upstream from highway bridge, 15 feet (5m) downstream from Peters Creek entering from the right, 3.5 miles (5.6 km) upstream from Lake Michigan and 4 miles (6 km) southwest of Garnet.

DRAINAGE AREA.--28 mi^2 (73 km^2) approximately.

PERIOD OF RECORD.--Water temperatures: October 1951 to September 1973.

EXTREMES.--1971-72:

Water temperatures: Maximum, 15.5°C May 21, 22; minimum, 0.5°C on several days during January and February.

1972-73:

Water temperatures: Maximum, 18.0°C July 8; minimum, freezing point on many days during January and February.

Period of record:

Water temperatures (1951-73): Maximum, 19.5°C July 21, 22, 1952; minimum, freezing point on many days during winter months.

REMARKS.--Intermittent periods of ice effect during winter period.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	13.0	9.5	8.5	2.0	2.0	1.5	1.0	0.5	0.5	1.0	1.0
2	14.0	13.5	8.5	8.5	2.0	2.0	1.5	1.0	1.0	0.5	1.0	1.0
3	14.0	14.0	8.5	8.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
4	14.0	14.0	8.0	7.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
5	14.0	13.5	7.0	6.5	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
6	13.5	12.5	7.0	6.5	2.0	2.0	---	---	1.0	1.0	1.0	1.0
7	12.5	11.5	6.5	5.0	2.0	2.0	---	---	1.0	1.0	1.0	1.0
8	11.5	11.0	5.0	4.5	2.5	2.0	---	---	1.0	1.0	1.0	1.0
9	11.0	11.0	4.0	4.0	2.0	2.5	---	---	1.0	1.0	1.0	1.0
10	11.0	11.0	4.0	4.0	1.5	1.5	---	---	1.0	1.0	1.0	1.0
11	11.0	10.5	4.0	4.0	1.0	1.0	---	---	1.0	1.0	1.5	1.0
12	11.0	10.5	4.0	4.0	1.0	1.0	---	---	1.5	1.0	2.0	1.5
13	10.0	10.0	4.0	4.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
14	10.5	10.0	5.0	4.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
15	10.5	10.5	6.0	5.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
16	10.5	10.5	6.0	6.0	1.0	1.0	1.0	0.5	1.5	1.0	---	---
17	10.5	10.5	7.0	6.0	1.0	1.0	0.5	0.5	1.0	1.0	---	---
18	11.0	10.5	7.5	7.0	1.0	1.0	1.0	0.5	1.5	1.0	---	---
19	12.0	10.5	7.0	6.0	1.5	1.0	1.0	1.0	1.5	1.0	---	---
20	12.0	12.0	6.0	4.5	1.0	1.0	1.0	1.0	1.0	1.0	---	---
21	12.0	12.0	4.5	3.5	1.0	1.0	1.0	1.0	1.0	1.0	---	---
22	12.5	12.0	3.5	3.0	1.0	1.0	1.5	1.0	1.0	1.0	---	---
23	12.5	12.0	3.0	3.0	1.5	1.0	1.5	1.0	1.0	1.0	---	---
24	12.0	12.0	3.0	3.0	1.5	1.0	1.0	0.5	1.0	1.0	---	---
25	12.0	12.0	3.0	3.0	1.0	1.0	0.5	0.5	1.0	1.0	---	---
26	12.5	12.0	3.0	3.0	1.0	1.0	0.5	0.5	1.0	1.0	---	---
27	12.5	12.5	3.0	3.0	1.0	1.0	0.5	0.5	1.0	1.0	---	---
28	12.5	11.5	3.0	3.0	1.0	1.0	0.5	0.5	1.0	1.0	1.5	1.5
29	11.0	10.0	2.5	2.5	1.0	1.0	0.5	0.5	1.0	1.0	1.5	1.5
30	10.0	10.0	2.5	2.0	1.0	1.0	0.5	0.5	---	---	1.5	1.5
31	10.0	9.5	---	---	1.0	1.0	0.5	0.5	---	---	1.5	1.5
MONTH	14.0	9.5	9.5	2.0	2.5	1.0	---	---	1.5	0.5	---	---

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1.5	1.5	7.0	6.5	12.5	11.0	13.5	13.5	12.0	12.0	14.0	14.0
2	1.5	1.5	5.5	5.5	13.0	11.5	13.5	13.5	12.0	12.0	14.0	12.5
3	1.5	1.5	6.5	6.0	13.5	11.5	13.5	13.0	13.0	12.5	12.5	11.5
4	2.0	2.0	8.0	5.0	14.0	12.5	13.0	12.0	13.0	12.5	12.0	11.0
5	2.0	2.0	9.0	7.0	13.0	11.5	12.0	11.5	12.5	12.5	12.5	11.5
6	2.0	1.5	9.0	7.0	14.5	12.0	12.0	12.0	12.5	12.5	12.0	11.0
7	2.0	1.5	8.0	5.5	13.5	12.0	12.0	12.0	12.5	12.5	13.0	12.0
8	2.0	1.5	8.5	7.0	13.5	12.5	12.5	12.0	12.5	11.5	13.0	11.5
9	2.0	1.5	8.5	7.5	13.0	13.0	12.5	12.5	11.5	11.5	11.5	11.0
10	2.0	2.0	9.0	7.5	13.0	12.5	12.5	12.5	11.5	11.5	11.5	11.0
11	2.5	2.0	10.5	8.5	12.5	12.0	13.5	12.5	11.5	11.5	11.5	11.5
12	2.5	2.5	10.5	9.0	12.0	11.5	13.0	13.0	12.0	11.5	11.5	11.5
13	2.5	2.5	10.5	10.0	11.5	11.5	13.5	13.0	12.0	12.0	11.5	11.5
14	2.5	2.0	13.0	10.0	12.0	11.5	13.5	13.5	12.0	12.0	11.5	11.5
15	2.5	2.5	13.0	12.0	12.0	12.0	13.5	13.0	12.5	12.5	12.0	11.5
16	2.5	2.0	14.0	12.0	12.0	12.0	13.5	13.5	12.5	12.5	12.0	11.5
17	2.5	2.0	14.5	12.5	12.0	12.0	13.5	13.5	13.0	12.5	12.0	11.5
18	2.5	2.0	14.5	12.5	12.0	12.0	13.5	13.5	13.5	13.0	12.5	12.0
19	2.0	2.0	14.5	13.5	12.0	12.0	13.5	13.5	14.0	13.5	12.5	11.5
20	3.0	2.0	15.0	13.5	12.0	12.0	13.5	13.5	14.0	14.0	12.5	12.0
21	2.0	2.0	15.5	14.0	12.0	12.0	13.5	13.5	14.5	14.0	13.0	12.0
22	2.0	1.5	15.5	13.5	12.0	12.0	13.5	13.5	14.5	13.5	12.0	11.0
23	2.0	1.5	15.0	13.0	12.0	11.0	13.0	13.0	13.5	13.0	11.0	10.5
24	3.0	2.0	15.0	13.0	11.0	11.0	13.5	13.5	14.5	13.5	11.0	10.5
25	2.0	2.0	15.0	14.0	12.0	11.0	13.5	13.0	14.5	14.5	11.5	11.0
26	2.5	2.0	15.0	13.0	12.5	12.0	13.0	12.5	14.5	14.0	11.5	11.5
27	4.0	2.0	14.5	13.0	13.0	12.5	12.5	12.0	14.5	14.0	11.5	10.5
28	5.5	2.5	14.0	13.0	13.0	13.0	12.0	12.0	15.0	13.5	10.5	10.5
29	6.5	4.0	14.0	12.5	13.5	13.0	12.5	12.0	14.5	13.0	10.5	10.5
30	7.0	5.0	12.5	11.5	13.5	13.5	12.5	12.0	14.5	12.5	10.5	10.0
31	---	---	11.5	10.0	---	---	12.0	12.0	14.0	13.5	---	---
MONTH	7.0	1.5	15.5	5.0	14.5	11.0	13.5	11.5	15.0	11.5	14.0	10.0
YEAR	15.5	0.5										

04046000 BLACK RIVER NEAR GARNET, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	10.0	5.5	5.0	1.0	1.0	1.0	1.0	0.0	0.0	1.5	1.5
2	11.0	10.5	5.0	5.0	1.0	0.5	1.0	0.5	0.0	0.0	2.0	1.5
3	11.5	11.0	5.0	4.5	0.5	0.5	1.0	1.0	0.0	0.0	2.0	2.0
4	12.0	11.0	4.5	4.5	0.5	0.5	1.0	1.0	0.0	0.0	2.0	2.0
5	12.0	11.5	5.0	4.5	0.5	0.5	1.0	1.0	0.0	0.0	2.0	1.5
6	12.0	10.5	5.5	4.5	1.0	0.5	1.0	0.5	0.0	0.0	2.0	2.0
7	10.5	10.0	5.5	5.5	0.5	0.5	0.5	0.5	0.0	0.0	2.0	1.5
8	10.5	9.5	5.5	5.0	0.5	0.5	0.5	0.5	0.0	0.0	1.5	1.5
9	9.5	8.5	5.0	4.5	0.5	0.5	0.5	0.0	0.0	0.0	1.5	1.0
10	8.5	8.0	4.5	4.5	1.0	0.5	0.0	0.0	0.0	0.0	2.0	1.5
11	9.5	8.5	4.5	4.5	0.5	0.5	0.0	0.0	0.0	0.0	2.0	1.0
12	9.5	8.5	4.5	4.0	0.5	0.5	0.0	0.0	0.0	0.0	1.5	1.0
13	9.0	8.5	4.0	3.0	1.0	0.5	0.0	0.0	0.0	0.0	1.0	0.5
14	9.0	9.0	3.0	2.5	1.0	0.5	0.5	0.0	0.0	0.0	1.0	1.0
15	9.0	8.0	2.0	2.0	1.0	0.5	0.5	0.5	0.5	0.0	1.0	1.0
16	8.0	8.0	2.0	1.5	1.0	0.5	1.0	0.5	0.5	0.5	1.5	1.0
17	8.0	7.0	2.0	1.5	0.5	0.5	1.0	1.0	0.5	0.0	1.0	0.5
18	7.0	6.5	1.5	1.5	1.0	0.5	1.0	1.0	0.5	0.5	1.0	0.5
19	6.5	6.5	1.5	1.5	1.5	1.0	1.0	0.0	0.5	0.5	1.5	1.0
20	6.5	6.5	1.5	1.5	1.5	1.0	0.0	0.0	0.5	0.5	1.0	0.5
21	6.5	6.0	1.5	1.0	1.5	1.0	0.0	0.0	0.5	0.5	1.5	0.5
22	6.0	6.0	1.5	1.0	1.5	1.5	0.0	0.0	1.0	0.5	1.5	0.5
23	6.0	6.0	1.5	1.0	1.5	1.5	0.0	0.0	1.0	1.0	2.0	1.0
24	6.0	6.0	1.5	1.0	1.5	1.5	0.0	0.0	1.0	1.0	2.0	1.0
25	6.0	5.5	2.0	1.5	1.5	1.5	0.0	0.0	1.0	1.0	2.0	1.5
26	7.0	6.0	2.0	1.5	1.5	1.5	0.0	0.0	1.0	1.0	2.5	1.5
27	7.0	6.5	2.0	1.5	1.5	1.5	0.0	0.0	1.0	1.0	2.5	1.5
28	7.0	7.0	1.5	1.0	1.5	1.0	0.0	0.0	1.5	1.0	3.0	1.5
29	7.0	5.5	1.0	1.0	1.0	0.5	0.0	0.0	---	---	4.0	3.0
30	5.5	5.0	1.0	1.0	0.5	0.5	0.0	0.0	---	---	4.0	3.5
31	5.5	5.0	---	---	1.0	0.5	0.0	0.0	---	---	4.0	3.0
MONTH	12.0	5.0	5.5	1.0	1.5	0.5	1.0	0.0	1.5	0.0	4.0	0.5

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.5	3.5	8.5	7.0	11.5	9.5	15.5	13.0	14.5	14.0	14.0	11.5
2	3.5	3.5	7.0	6.5	12.0	11.0	15.5	14.5	14.0	13.5	14.0	12.0
3	3.5	3.5	6.5	5.5	12.0	11.0	16.5	14.5	14.5	13.0	13.5	12.0
4	3.5	3.0	6.5	4.5	12.5	10.5	16.5	15.5	14.5	12.5	13.0	12.0
5	3.0	2.0	8.5	6.5	12.0	11.0	16.0	15.0	15.0	13.0	13.5	11.5
6	4.0	2.5	8.5	7.5	13.0	10.5	15.5	14.5	16.0	15.0	11.5	11.0
7	4.5	3.5	7.5	7.5	12.0	10.5	16.5	15.5	16.0	16.0	11.0	10.5
8	4.5	3.0	7.5	7.5	10.5	10.0	18.0	16.5	16.0	16.0	10.5	10.5
9	4.0	2.5	9.0	7.5	11.5	10.5	17.5	15.5	17.0	16.0	10.5	10.0
10	2.5	2.0	10.5	9.0	11.5	11.5	17.0	15.0	17.0	16.5	11.0	10.0
11	3.5	1.5	10.5	9.5	12.0	11.5	16.0	14.0	17.0	16.5	10.0	9.5
12	3.5	2.5	9.5	8.5	12.5	12.5	15.0	13.5	16.5	15.0	9.5	9.0
13	4.0	2.0	9.0	7.5	12.5	12.0	15.0	13.5	15.5	14.5	9.0	9.0
14	4.5	3.5	8.5	7.0	12.5	12.0	14.5	13.0	15.0	14.5	9.5	9.0
15	5.0	4.5	8.5	6.5	13.5	12.0	14.5	12.5	15.0	13.5	9.5	9.0
16	5.0	5.0	8.5	7.0	13.5	12.0	14.5	12.5	14.5	13.5	9.0	9.0
17	6.0	4.5	7.5	6.5	12.0	11.0	14.5	12.5	15.0	13.5	9.0	9.0
18	7.5	6.0	9.5	6.5	11.5	11.5	14.0	13.0	15.0	13.5	8.0	8.0
19	8.0	7.0	10.5	7.5	12.0	11.5	15.0	12.5	14.5	13.5	8.0	8.0
20	9.0	8.0	11.0	9.0	12.5	12.0	14.0	12.5	14.5	13.0	8.0	8.0
21	10.0	8.5	12.0	9.5	12.5	12.5	14.0	12.0	13.0	12.0	8.0	7.5
22	10.0	9.0	12.0	10.0	12.5	12.5	14.0	12.0	12.0	11.0	8.5	8.0
23	9.5	7.5	12.0	10.5	12.5	12.0	14.0	12.0	11.5	11.0	8.5	8.5
24	8.0	7.0	11.0	10.5	12.0	11.5	13.0	12.0	12.0	11.0	9.0	8.0
25	9.0	7.5	11.0	10.5	12.0	11.5	13.0	12.0	12.0	11.0	9.0	8.5
26	8.5	7.0	11.0	10.5	12.0	11.5	14.5	12.0	12.5	11.5	9.5	8.5
27	8.5	7.0	10.5	10.5	14.0	12.0	14.5	14.5	12.0	11.5	10.5	9.5
28	8.0	7.0	10.5	10.0	14.0	14.0	14.5	13.5	13.5	11.5	10.0	8.0
29	8.5	6.5	11.5	9.5	14.0	13.0	14.5	13.0	14.0	11.5	9.0	8.0
30	8.5	6.5	11.5	9.0	13.0	13.0	14.5	14.0	13.5	12.0	9.0	8.0
31	---	---	11.5	10.0	---	---	14.5	14.5	13.5	12.0	---	---
MONTH	10.0	1.5	12.0	4.5	14.0	9.5	18.0	12.0	17.0	11.0	14.0	7.5
YEAR	18.0	0.0										

04057800 MIDDLE BRANCH ESCANABA RIVER AT HUMBOLDT, MICH.

LOCATION.--Lat 46°29'57", long 87°53'11", in SW¼ sec.1, T.47 N., R.29 W., Marquette County, temperature recorder at gaging station on left bank, 15 ft (5m) upstream from county highway bridge, 0.3 mi (0.5 km) north of Humboldt and 1.5 mi (2.4 km) downstream from Halfway Creek.

DRAINAGE AREA.--46.0 mi² (119 km²).

PERIOD OF RECORD.--Water temperatures: November 1972 to September 1973.

EXTREMES.--1972-73:

Water temperatures: Maximum, 23.0°C August 29; minimum, freezing point on many days during November to March.

REMARKS.--Complete ice cover during the winter period.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
10	---	---	3.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
11	---	---	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
12	---	---	3.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	---	---	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	---	---	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	---	---	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	---	---	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	---	---	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	---	---	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	---	---	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	---	---	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
21	---	---	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
22	---	---	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
23	---	---	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
24	---	---	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
25	---	---	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
26	---	---	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
27	---	---	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
28	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.5
29	---	---	0.0	0.0	0.0	0.0	0.0	0.0	---	---	2.0	0.5
30	---	---	0.0	0.0	0.0	0.0	0.0	0.0	---	---	3.0	0.5
31	---	---	---	---	0.0	0.0	0.0	0.0	---	---	2.5	0.5
MONTH	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	2.5	1.0	8.5	5.5	14.5	11.5	18.5	14.0	15.5	13.5	21.5	19.5
2	1.0	0.5	5.5	3.0	16.5	11.0	19.0	16.5	17.0	13.0	22.0	20.0
3	1.0	0.0	3.0	2.5	16.5	13.5	19.5	16.0	17.0	13.0	22.0	20.5
4	0.5	0.0	6.0	2.0	17.5	12.0	19.5	16.5	17.5	13.5	21.5	20.5
5	0.5	0.0	8.5	4.5	18.0	15.0	20.0	16.0	19.5	16.5	21.5	18.5
6	2.0	0.0	9.0	7.5	18.0	14.0	21.0	16.5	19.5	17.5	19.5	16.0
7	2.0	1.0	9.0	7.5	16.5	13.0	22.0	18.5	18.5	17.5	17.5	13.5
8	2.5	1.0	7.5	7.5	15.0	11.5	22.5	19.5	18.0	17.0	16.5	12.5
9	2.0	1.0	9.5	7.5	16.5	11.5	22.5	17.5	19.0	16.5	16.0	12.0
10	2.5	0.5	9.5	8.5	18.0	15.0	20.0	17.0	19.0	16.5	17.0	13.0
11	3.0	0.5	9.0	8.0	18.5	15.5	20.0	15.5	18.0	16.5	16.5	13.5
12	3.0	1.5	9.0	7.5	18.0	15.0	19.5	17.5	18.5	14.5	15.5	12.0
13	5.0	1.5	9.5	6.0	18.0	13.5	19.0	16.0	18.5	15.5	14.5	11.5
14	6.5	3.0	9.0	6.5	17.5	13.5	19.0	16.5	17.0	14.5	14.0	13.0
15	6.0	4.5	8.0	5.5	20.0	15.0	18.5	15.0	18.5	15.5	14.0	12.0
16	4.5	2.5	8.0	6.5	19.5	16.5	19.0	14.5	18.5	16.5	13.0	10.5
17	4.5	1.5	10.0	6.0	16.5	14.0	20.5	16.0	18.5	16.0	13.0	10.0
18	7.0	4.0	10.0	7.5	16.5	14.0	20.5	18.0	20.0	16.5	11.0	8.5
19	7.0	6.0	11.0	8.0	19.0	15.5	20.5	17.5	20.0	18.5	11.0	9.0
20	7.5	6.0	12.0	8.5	18.5	16.0	20.5	17.5	18.5	17.0	9.5	7.0
21	10.0	7.5	13.5	9.0	18.0	15.5	19.5	15.5	17.0	15.0	9.5	7.0
22	10.0	8.5	13.5	10.0	17.5	14.5	19.5	15.5	16.5	14.0	9.0	8.0
23	8.5	6.0	14.0	10.0	16.0	14.5	19.5	16.0	17.0	15.5	9.0	9.0
24	7.5	4.5	13.5	10.5	18.5	13.5	18.5	16.5	17.0	13.5	12.0	9.0
25	8.5	6.0	11.0	10.0	18.0	16.0	22.0	17.5	17.0	16.0	13.5	11.0
26	9.0	6.0	12.0	10.0	17.5	15.0	21.0	18.0	19.0	16.5	13.5	11.5
27	8.0	6.0	14.0	10.5	17.5	16.0	19.0	17.0	21.5	18.0	14.5	13.0
28	8.0	5.5	13.5	11.5	16.5	15.5	18.0	15.5	22.0	19.0	13.5	11.5
29	9.0	5.0	14.0	9.5	15.0	14.0	17.5	14.0	23.0	20.0	13.0	11.5
30	9.5	6.0	14.5	9.5	15.0	14.0	16.0	15.0	22.5	19.5	12.5	9.0
31	---	---	15.5	12.5	---	---	15.5	14.0	20.5	18.5	---	---
MONTH	10.0	0.0	15.5	2.0	20.0	11.0	22.5	14.0	23.0	13.0	22.0	7.0
YEAR	23.0	0.0										

04057812 GREENWOOD AFTERBAY NEAR GREENWOOD, MICH.

LOCATION.--Lat 46°26'32", long 87°48'02" in NW¼ SW¼ sec.27, T.47 N., R.28 W., Marquette County, temperature recorder in control house on downstream side of Greenwood dam on the Middle Branch Escanaba River, 3.5 miles (5.6 km) southwest of Greenwood.
DRAINAGE AREA.--67.4 mi^2 (174.6 km^2).
PERIOD OF RECORD.--Water temperature: January to September 1973.
EXTREMES.--January to September 1973.
Water temperatures: Maximum 19.0°C Sept. 1-6; minimum, freezing point on many days during January to March.
REMARKS.--Thermograph installed Jan. 30, 1973.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
2	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
3	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
4	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
5	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
6	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
7	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
8	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
9	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
10	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
11	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
12	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
13	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
14	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
15	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
16	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
17	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
18	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
19	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
20	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
21	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
22	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
23	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
24	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
25	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
26	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
27	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
28	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0
29	---	---	---	---	---	---	---	---	---	---	0.0	0.0
30	---	---	---	---	---	---	---	---	---	---	0.5	0.0
31	---	---	---	---	---	---	0.0	0.0	---	---	0.5	0.5
MONTH	---	---	---	---	---	---	---	---	0.0	0.0	0.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.5	0.5	7.5	7.5	11.0	11.0	15.5	15.5	18.0	17.5	19.0	18.5
2	0.5	0.5	7.5	7.5	11.5	11.0	15.5	15.5	17.5	17.5	19.0	18.5
3	0.5	0.5	7.5	7.0	11.5	11.0	15.5	15.5	17.5	17.0	19.0	18.5
4	1.0	0.5	7.0	7.0	11.0	10.5	16.0	15.5	17.0	17.0	19.0	18.5
5	1.0	1.0	7.0	7.0	11.0	11.0	16.0	15.5	17.5	17.0	19.0	18.5
6	1.0	1.0	7.0	7.0	11.5	11.0	16.0	16.0	17.5	17.0	19.0	18.5
7	1.0	1.0	7.0	7.0	12.0	11.5	16.0	16.0	17.0	17.0	18.5	18.5
8	1.0	1.0	7.0	7.0	12.0	11.5	16.5	16.0	17.5	17.0	18.5	18.0
9	1.0	1.0	7.5	7.0	12.0	12.0	16.5	16.0	17.5	17.0	18.0	17.5
10	1.0	1.0	7.5	7.5	12.5	11.5	16.5	16.0	18.0	17.5	18.0	17.5
11	1.0	1.0	8.0	7.5	12.5	12.5	16.5	16.0	18.0	18.0	18.0	17.5
12	1.0	1.0	8.0	8.0	13.0	12.5	16.5	16.0	18.0	17.5	17.5	17.0
13	1.5	1.0	8.5	8.0	13.5	12.5	17.5	16.5	17.5	17.5	17.0	16.5
14	2.0	2.0	8.5	8.5	13.5	13.0	17.5	17.0	17.5	17.5	16.5	16.5
15	2.0	2.0	8.5	8.5	13.0	13.0	17.0	17.0	17.5	17.5	16.5	15.5
16	2.0	2.0	8.5	8.5	13.5	13.0	17.0	16.5	17.5	17.5	15.5	15.5
17	2.5	2.0	8.5	8.5	13.5	13.0	17.0	17.0	18.0	17.5	15.5	15.0
18	3.5	2.5	8.5	8.5	13.0	13.0	17.0	17.0	18.0	17.5	15.0	15.0
19	3.5	3.5	9.5	9.0	13.5	13.0	17.0	16.5	18.0	17.5	15.0	10.5
20	4.0	3.5	9.5	9.5	14.0	13.0	17.5	17.0	18.0	18.0	10.5	10.5
21	5.0	4.0	10.0	9.5	14.0	13.5	17.5	17.5	18.0	18.0	11.0	11.0
22	5.5	5.0	10.0	10.0	14.0	13.5	17.5	17.5	18.0	17.5	11.0	11.0
23	5.5	5.5	11.0	10.0	14.0	14.0	17.5	17.0	17.5	17.5	11.5	11.0
24	6.0	5.5	11.0	11.0	14.0	14.0	17.5	17.0	17.5	17.5	11.5	11.5
25	6.5	6.0	11.0	10.5	14.5	14.0	18.5	17.0	17.5	17.5	12.0	11.5
26	7.0	6.5	11.0	10.5	14.5	14.0	18.0	16.0	17.5	17.5	12.0	12.0
27	7.0	7.0	11.0	10.5	14.5	14.0	18.0	17.5	17.5	17.5	12.0	12.0
28	7.0	7.0	11.5	11.0	15.5	14.5	18.0	18.0	17.5	17.5	12.0	12.0
29	7.0	7.0	11.5	11.5	15.5	15.0	18.0	18.0	18.0	17.5	12.0	12.0
30	7.5	7.0	11.5	11.5	15.5	15.0	18.0	18.0	18.0	18.0	12.0	12.0
31	---	---	11.5	11.0	---	---	18.0	18.0	18.5	18.0	---	---
MONTH	7.5	0.5	11.5	7.0	15.5	10.5	18.5	15.5	18.5	17.0	19.0	10.5
YEAR	19.0	0.0										

04057813 GREENWOOD DIVERSION NEAR GREENWOOD, MICH.

LOCATION.--Lat 46°26'04", long 87°46'10", in NW¼ NE¼ sec.35, T.47 N., R.28 W., Marquette County, temperature recorder at gaging station on left bank at downstream end of pipeline 200 ft (61 m) upstream from Green Creek, 0.7 mile (1.1 km) below Greenwood Afterbay, and 3.6 miles (5.8 km) south of Greenwood.
PERIOD OF RECORD.--Water temperatures: September 1973.
EXTREMES.--September 1973:
Water temperatures: Maximum, 20.0°C Sept. 6; minimum, 9.5°C Sept. 28-30.
REMARKS.--Thermograph installed Aug. 31, 1973.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 to SEPTEMBER 1973

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	19.0	19.0
2	---	---	---	---	---	---	---	---	---	---	19.0	19.0
3	---	---	---	---	---	---	---	---	---	---	19.0	19.0
4	---	---	---	---	---	---	---	---	---	---	19.0	19.0
5	---	---	---	---	---	---	---	---	---	---	19.0	19.0
6	---	---	---	---	---	---	---	---	---	---	20.0	18.5
7	---	---	---	---	---	---	---	---	---	---	18.5	17.5
8	---	---	---	---	---	---	---	---	---	---	17.5	17.0
9	---	---	---	---	---	---	---	---	---	---	17.0	16.5
10	---	---	---	---	---	---	---	---	---	---	16.5	16.5
11	---	---	---	---	---	---	---	---	---	---	16.5	16.5
12	---	---	---	---	---	---	---	---	---	---	16.5	16.5
13	---	---	---	---	---	---	---	---	---	---	16.0	15.5
14	---	---	---	---	---	---	---	---	---	---	15.5	15.0
15	---	---	---	---	---	---	---	---	---	---	15.0	15.0
16	---	---	---	---	---	---	---	---	---	---	15.0	14.5
17	---	---	---	---	---	---	---	---	---	---	14.5	14.0
18	---	---	---	---	---	---	---	---	---	---	14.0	13.5
19	---	---	---	---	---	---	---	---	---	---	13.5	13.5
20	---	---	---	---	---	---	---	---	---	---	13.5	13.0
21	---	---	---	---	---	---	---	---	---	---	13.0	12.0
22	---	---	---	---	---	---	---	---	---	---	12.0	11.5
23	---	---	---	---	---	---	---	---	---	---	11.5	11.0
24	---	---	---	---	---	---	---	---	---	---	11.5	11.0
25	---	---	---	---	---	---	---	---	---	---	11.0	11.0
26	---	---	---	---	---	---	---	---	---	---	11.0	10.5
27	---	---	---	---	---	---	---	---	---	---	11.0	10.0
28	---	---	---	---	---	---	---	---	---	---	10.5	9.5
29	---	---	---	---	---	---	---	---	---	---	12.0	9.5
30	---	---	---	---	---	---	---	---	---	---	10.5	9.5
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	20.0	9.5
YEAR	20.0	9.5										

04057814 GREENWOOD RELEASE NEAR GREENWOOD, MICH.

LOCATION.--Lat 46°26'22", long 87°47'52", in NW¼ SW¼ sec.27, T.47 N., R.28 W., Marquette County, temperature recorder at gaging station on left bank at the outlet of Greenwood Afterbay, 3.8 miles (6.1 km) southwest of Greenwood.
DRAINAGE AREA.--67.4 mi² (174.6 km²), including that of Greenwood Diversion.
PERIOD OF RECORD.--Water temperatures: September 1973.
EXTREMES.--September 1973:
Water temperature: Maximum, 18.0°C Sept. 1, 2; minimum, 10.5°C Sept. 21, 28, 30.
REMARKS.--Thermograph installed Aug. 31, 1973.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	18.0	17.5
2	---	---	---	---	---	---	---	---	---	---	18.0	17.5
3	---	---	---	---	---	---	---	---	---	---	17.5	17.5
4	---	---	---	---	---	---	---	---	---	---	17.5	17.5
5	---	---	---	---	---	---	---	---	---	---	17.5	17.0
6	---	---	---	---	---	---	---	---	---	---	17.5	16.5
7	---	---	---	---	---	---	---	---	---	---	16.5	16.0
8	---	---	---	---	---	---	---	---	---	---	16.5	16.0
9	---	---	---	---	---	---	---	---	---	---	16.0	15.5
10	---	---	---	---	---	---	---	---	---	---	16.5	15.5
11	---	---	---	---	---	---	---	---	---	---	16.5	15.5
12	---	---	---	---	---	---	---	---	---	---	15.5	15.0
13	---	---	---	---	---	---	---	---	---	---	15.5	15.0
14	---	---	---	---	---	---	---	---	---	---	15.0	15.0
15	---	---	---	---	---	---	---	---	---	---	15.0	14.5
16	---	---	---	---	---	---	---	---	---	---	13.5	13.5
17	---	---	---	---	---	---	---	---	---	---	13.0	13.0
18	---	---	---	---	---	---	---	---	---	---	12.5	12.5
19	---	---	---	---	---	---	---	---	---	---	12.5	12.0
20	---	---	---	---	---	---	---	---	---	---	10.5	10.0
21	---	---	---	---	---	---	---	---	---	---	11.0	10.5
22	---	---	---	---	---	---	---	---	---	---	11.0	11.0
23	---	---	---	---	---	---	---	---	---	---	11.0	11.0
24	---	---	---	---	---	---	---	---	---	---	11.5	11.0
25	---	---	---	---	---	---	---	---	---	---	12.0	11.5
26	---	---	---	---	---	---	---	---	---	---	12.5	11.5
27	---	---	---	---	---	---	---	---	---	---	11.5	11.5
28	---	---	---	---	---	---	---	---	---	---	10.5	10.5
29	---	---	---	---	---	---	---	---	---	---	10.5	10.5
30	---	---	---	---	---	---	---	---	---	---	10.5	10.0
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	18.0	10.0
YEAR	18.0	10.0										

04057820 MIDDLE BRANCH ESCANABA RIVER NEAR GREENWOOD, MICH.

LOCATION.--Lat 46°25'13", long 87°47'53", in NW¼ sec.3, T.46 N., R.28 W., Marquette County, at gaging station on right bank, 10 ft (3m) downstream from county highway bridge, 100 ft (30m) downstream from Bell Creek and 5 miles (8 km) southwest of Greenwood.
DRAINAGE AREA.--73.3 mi^2 (189.8 km^2).
PERIOD OF RECORD.--Water temperatures: August to September 1973.
EXTREMES.-August 1973 to September 1973:
Water temperatures: Maximum, 22.5°C Aug. 29, Sept. 1, 2; minimum, 8.5°C Sept. 21.
REMARKS.--Thermograph installed Aug. 21, 1973.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	22.5	20.0
2	---	---	---	---	---	---	---	---	---	---	22.5	20.0
3	---	---	---	---	---	---	---	---	---	---	22.0	20.5
4	---	---	---	---	---	---	---	---	---	---	22.0	20.5
5	---	---	---	---	---	---	---	---	---	---	21.0	19.0
6	---	---	---	---	---	---	---	---	---	---	19.0	17.0
7	---	---	---	---	---	---	---	---	---	---	18.0	15.5
8	---	---	---	---	---	---	---	---	---	---	17.5	15.0
9	---	---	---	---	---	---	---	---	---	---	18.0	14.5
10	---	---	---	---	---	---	---	---	---	---	18.5	15.5
11	---	---	---	---	---	---	---	---	---	---	17.5	15.5
12	---	---	---	---	---	---	---	---	---	---	16.5	14.5
13	---	---	---	---	---	---	---	---	---	---	16.0	14.5
14	---	---	---	---	---	---	---	---	---	---	16.0	15.5
15	---	---	---	---	---	---	---	---	---	---	15.0	14.0
16	---	---	---	---	---	---	---	---	---	---	15.0	12.5
17	---	---	---	---	---	---	---	---	---	---	13.5	12.5
18	---	---	---	---	---	---	---	---	---	---	14.0	11.0
19	---	---	---	---	---	---	---	---	---	---	13.5	11.5
20	---	---	---	---	---	---	---	---	---	---	11.5	10.0
21	---	---	---	---	---	---	---	---	---	---	10.0	8.5
22	---	---	---	---	---	---	---	---	17.0	15.0	9.5	9.5
23	---	---	---	---	---	---	---	---	17.5	16.0	9.5	9.5
24	---	---	---	---	---	---	---	---	17.5	14.0	11.5	9.5
25	---	---	---	---	---	---	---	---	17.5	16.5	12.5	11.0
26	---	---	---	---	---	---	---	---	18.0	16.5	13.5	11.5
27	---	---	---	---	---	---	---	---	21.5	17.5	14.0	12.5
28	---	---	---	---	---	---	---	---	21.5	18.0	13.5	11.5
29	---	---	---	---	---	---	---	---	22.5	19.0	13.0	11.5
30	---	---	---	---	---	---	---	---	21.5	19.0	12.5	10.0
31	---	---	---	---	---	---	---	---	21.5	19.0	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	9.5	20.5
YEAR	20.5	9.5										

04058000 MIDDLE BRANCH ESCANABA RIVER NEAR ISHPEMING, MICH.

LOCATION.--Lat 46°23'40", long 87°45'30", in NW¼ SW¼ sec.12, T.46 N., R.28 W., Marquette County, temperature recorder at gaging station on left bank 0.5 mi (0.8 km) downstream from County Highway 581, 6 mi (10 km) southwest of Ishpeming, and 10 mi (16 km) east of Republic.
DRAINAGE AREA.--128 mi² (332 km²).
PERIOD OF RECORD.--Water temperatures: August 1961 to September 1973.
EXTREMES.--1971-72:
Water temperatures: Maximum, 21.0°C May 21-24 and 28; minimum, freezing point on many days December to April.
1972-73:
Water temperatures: Maximum, 22.5°C July 8; minimum, freezing point on many days November to March.
Period of record:
Water temperatures (1961-73): Maximum 25.5°C July 1, 2, 1963, July 21, 1964; minimum freezing point on many days during winter period.
REMARKS.--Complete ice cover during winter period. No temperature records October 1 to November 5, November 14 to December 14, April 10 to May 19, May 25, 26, May 29 to July 6, August 15 to September 30, 1971-72; October 1 to November 9, April 9 to May 9, 1972-73, due to malfunction of the recorder.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
2	---	---	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
3	---	---	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
4	---	---	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
5	---	---	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
6	---	---	3.0	2.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0
7	---	---	2.5	2.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
8	---	---	2.0	1.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0
9	---	---	1.5	1.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0
10	---	---	1.5	1.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
11	---	---	1.0	1.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
12	---	---	1.5	1.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0
13	---	---	2.0	1.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0
14	---	---	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
15	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	---	---	---	---	0.0	0.0	---	---	0.0	0.0	0.0	0.0
25	---	---	---	---	0.0	0.0	---	---	0.0	0.0	0.0	0.0
26	---	---	---	---	0.0	0.0	---	---	0.0	0.0	0.0	0.0
27	---	---	---	---	0.0	0.0	---	---	0.0	0.0	0.0	0.0
28	---	---	---	---	0.0	0.0	---	---	0.0	0.0	0.0	0.0
29	---	---	---	---	0.0	0.0	---	---	0.0	0.0	0.0	0.0
30	---	---	---	---	0.0	0.0	---	---	---	---	0.0	0.0
31	---	---	---	---	0.0	0.0	0.0	0.0	---	---	0.0	0.0
MONTH	---	---	---	---	---	---	---	---	0.0	0.0	0.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	---	---	---	---	---	---	19.5	17.5	---	---
2	0.0	0.0	---	---	---	---	---	---	19.0	17.0	---	---
3	0.0	0.0	---	---	---	---	---	---	19.0	17.0	---	---
4	0.0	0.0	---	---	---	---	---	---	17.5	15.0	---	---
5	0.0	0.0	---	---	---	---	---	---	17.0	15.5	---	---
6	0.0	0.0	---	---	---	---	---	---	17.0	15.5	---	---
7	0.0	0.0	---	---	---	---	16.0	14.5	17.5	14.5	---	---
8	0.0	0.0	---	---	---	---	16.0	13.5	15.0	13.5	---	---
9	0.0	0.0	---	---	---	---	16.0	15.0	14.0	13.0	---	---
10	0.0	0.0	---	---	---	---	17.0	15.0	14.0	11.5	---	---
11	---	---	---	---	---	---	19.0	17.0	15.0	14.0	---	---
12	---	---	---	---	---	---	19.5	18.0	17.0	14.0	---	---
13	---	---	---	---	---	---	19.5	17.5	17.0	15.5	---	---
14	---	---	---	---	---	---	19.0	17.5	17.0	16.0	---	---
15	---	---	---	---	---	---	19.0	17.0	---	---	---	---
16	---	---	---	---	---	---	18.5	16.5	---	---	---	---
17	---	---	---	---	---	---	17.0	16.0	---	---	---	---
18	---	---	---	---	---	---	19.5	16.5	---	---	---	---
19	---	---	---	---	---	---	20.0	17.0	---	---	---	---
20	---	---	20.0	19.0	---	---	20.0	19.0	---	---	---	---
21	---	---	21.0	19.0	---	---	19.0	19.0	---	---	---	---
22	---	---	21.0	19.0	---	---	19.5	18.5	---	---	---	---
23	---	---	21.0	18.5	---	---	20.5	19.0	---	---	---	---
24	---	---	21.0	19.0	---	---	20.5	19.0	---	---	---	---
25	---	---	---	---	---	---	19.5	18.0	---	---	---	---
26	---	---	---	---	---	---	18.0	16.5	---	---	---	---
27	---	---	20.0	18.0	---	---	17.5	15.5	---	---	---	---
28	---	---	21.0	18.0	---	---	17.0	15.5	---	---	---	---
29	---	---	---	---	---	---	18.5	15.5	---	---	---	---
30	---	---	---	---	---	---	19.5	17.0	---	---	---	---
31	---	---	---	---	---	---	20.0	18.0	---	---	---	---
MONTH	---	---	---	---	---	---	20.5	13.5	---	---	---	---
YEAR	21.0	0.0										

04058000 MIDDLE BRANCH ESCANABA RIVER NEAR ISHPEMING, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	---	---	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	---	---	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	---	---	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	---	---	3.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	---	---	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	---	---	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	---	---	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	---	---	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
26	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
27	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
28	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
29	---	---	0.0	0.0	0.0	0.0	0.0	0.0	---	---	1.0	1.0
30	---	---	0.0	0.0	0.0	0.0	0.0	0.0	---	---	1.5	1.0
31	---	---	---	---	0.0	0.0	0.0	0.0	---	---	1.5	1.5
MONTH	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1.5	1.5	---	---	14.0	12.5	18.0	15.5	16.5	16.0	21.0	21.0
2	1.5	1.5	---	---	14.5	12.5	18.5	17.0	17.5	15.5	21.0	21.0
3	1.5	1.5	---	---	14.5	13.5	19.0	16.5	18.0	16.0	21.0	21.0
4	1.5	1.0	---	---	15.0	13.0	19.0	17.5	19.0	16.5	21.0	19.0
5	1.0	1.0	---	---	15.5	14.0	19.0	16.5	20.0	18.0	19.0	17.0
6	2.0	1.0	---	---	15.5	14.0	20.5	17.0	20.0	19.0	17.0	15.5
7	2.5	2.0	---	---	15.0	14.0	21.5	19.0	19.0	18.0	16.0	14.5
8	2.0	1.5	---	---	14.0	13.0	22.5	20.5	18.0	17.0	15.5	14.0
9	---	---	---	---	15.5	13.0	21.5	19.0	19.0	17.0	16.0	14.5
10	---	---	9.0	9.0	16.0	15.5	20.5	17.5	19.0	17.5	16.0	15.0
11	---	---	9.0	9.0	17.0	16.0	19.5	17.0	18.0	17.0	15.0	13.5
12	---	---	9.0	8.5	17.0	16.0	19.0	18.0	18.5	16.0	14.0	13.0
13	---	---	9.0	8.0	17.0	15.0	19.0	17.0	18.0	16.5	14.5	14.0
14	---	---	9.0	8.0	17.0	15.0	19.0	17.0	18.0	16.0	14.0	13.5
15	---	---	8.0	7.5	19.0	16.0	18.0	16.0	19.0	17.0	13.0	12.5
16	---	---	8.0	8.0	19.0	17.0	18.0	15.5	19.0	18.0	13.0	11.5
17	---	---	9.0	7.5	17.0	15.5	20.0	16.5	18.0	17.0	11.5	10.5
18	---	---	9.0	8.5	16.5	15.5	20.0	19.0	19.5	17.5	11.5	11.0
19	---	---	10.0	8.5	18.0	16.5	20.5	18.5	19.5	18.0	11.0	10.0
20	---	---	11.0	9.0	18.0	17.5	20.5	18.0	18.0	17.5	10.5	10.0
21	---	---	12.0	10.0	17.5	16.5	19.0	17.0	17.5	16.0	10.0	10.0
22	---	---	12.5	11.0	16.5	16.0	19.5	17.0	16.0	15.0	10.0	10.0
23	---	---	13.0	11.0	16.0	16.0	19.0	17.0	17.0	16.0	11.0	10.0
24	---	---	13.0	12.0	18.0	15.0	18.5	17.0	16.5	14.5	12.0	11.0
25	---	---	12.0	11.5	18.0	17.0	21.0	18.0	16.5	16.5	13.0	12.0
26	---	---	12.0	11.0	18.0	16.0	21.0	19.0	17.0	16.5	13.5	13.0
27	---	---	12.5	11.5	18.0	17.0	19.5	19.0	20.5	17.0	13.5	12.5
28	---	---	12.5	12.0	17.5	16.5	19.0	17.0	21.0	19.5	13.0	12.5
29	---	---	13.0	11.0	16.5	16.0	19.0	16.5	21.0	19.5	12.5	11.0
30	---	---	14.0	11.0	16.0	15.5	18.0	17.5	20.5	19.0	11.5	11.0
31	---	---	14.0	13.5	---	---	17.5	16.5	21.0	20.0	---	---
MONTH	---	---	---	---	19.0	12.5	22.5	15.5	21.0	14.5	21.0	10.0
YEAR	22.5	0.0										

04059500 FORD RIVER NEAR HYDE, MICH.

LOCATION.--Lat 45°45'20", long 87°12'05", in SW¼ sec. 19, T.39 N., R.23 W., Delta County, temperature recorder at gaging station on right bank 40 ft (12 m) downstream from county highway bridge, 1.4 mi (2.3 km) downstream from Ten Mile Creek, and 1.5 mi (2.4 km) north of Hyde.

DRAINAGE AREA.--450 mi² (1170 km²).

PERIOD OF RECORD.--Water temperatures: July 1956 to September 1973.

EXTREMES.--1971-72:

Water temperatures: Maximum 25.5°C June 30, July 22, 23; minimum, freezing point on many days during November to April.

1972-73:

Water temperatures: Maximum, 27.5°C July 8; minimum, freezing point on many days during November to March.

Period of record:

Water temperatures (1956-73): Maximum, 30.5°C July 21, 1964; minimum, freezing point on many days during winter months.

REMARKS.--Complete ice cover during the winter period. No temperature record Oct. 25 to Nov. 20, 1972, clock stopped, range in temperature 0.0°C to 6.0°C.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.5	16.0	9.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	19.5	16.5	8.5	[illegible]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	19.5	17.5	8.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	17.5	15.0	7.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	15.0	13.5	7.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	14.5	13.0	7.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	13.0	11.5	4.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	12.0	11.5	2.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	11.5	10.5	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	11.0	10.5	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	11.0	10.0	3.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	10.5	9.0	3.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	11.0	10.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	12.0	10.0	3.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	12.0	10.5	5.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	11.5	9.5	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	11.5	10.5	6.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	12.5	12.0	6.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	14.0	13.0	6.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	14.0	14.0	4.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	15.0	14.0	3.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	15.0	14.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	14.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	13.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	14.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	14.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	14.5	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	14.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	12.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	12.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	0.0	0.0
31	12.0	9.0	---	---	0.0	0.0	0.0	0.0	---	---	0.0	0.0
MONTH	19.5	9.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	6.5	5.5	18.5	15.0	23.5	21.5	22.5	20.5	20.0	14.5
2	0.0	0.0	5.5	5.5	19.5	16.0	24.0	21.0	22.5	21.0	19.5	16.5
3	0.0	0.0	6.5	5.0	21.0	17.0	21.0	18.5	22.0	20.5	17.0	14.0
4	0.0	0.0	8.0	5.5	21.5	18.0	20.0	16.5	20.5	17.5	14.5	14.0
5	0.0	0.0	9.0	6.5	22.0	17.5	21.0	17.5	22.0	18.0	17.5	15.5
6	0.0	0.0	9.5	8.5	21.0	16.5	23.0	18.5	21.0	18.5	17.5	16.0
7	0.0	0.0	10.0	8.0	22.0	19.0	20.0	18.5	19.0	17.0	17.5	16.0
8	0.0	0.0	10.5	8.0	23.5	21.0	20.5	17.0	17.5	15.0	17.5	16.5
9	0.0	0.0	10.5	9.0	23.0	18.0	19.5	18.5	15.5	13.5	17.0	14.5
10	0.0	0.0	11.0	9.0	18.5	15.0	21.5	18.0	17.5	14.0	16.0	14.5
11	0.0	0.0	13.0	9.5	18.0	16.0	23.0	20.0	18.0	17.5	15.5	15.0
12	0.0	0.0	14.0	11.0	16.5	15.5	24.0	21.0	21.0	17.5	15.5	13.5
13	0.0	0.0	13.5	12.0	16.5	16.0	25.0	21.5	23.0	20.0	17.5	16.0
14	0.0	0.0	13.0	12.0	19.0	16.5	22.0	21.5	23.0	21.0	17.5	15.5
15	0.0	0.0	15.5	12.0	19.0	18.0	23.0	20.0	21.5	19.0	17.5	15.5
16	0.5	0.5	17.0	13.0	19.0	16.0	23.5	20.5	21.0	20.0	16.0	14.0
17	1.0	0.5	18.5	14.5	18.5	16.5	20.5	19.0	22.0	19.0	16.5	13.5
18	0.5	0.5	20.5	16.0	21.0	18.5	23.0	19.0	22.0	20.0	17.0	15.5
19	0.5	0.5	21.0	17.5	21.5	19.0	23.5	20.5	22.0	19.5	16.5	14.5
20	1.5	0.5	20.5	18.0	21.5	16.0	24.0	22.5	21.5	19.5	16.5	15.5
21	1.0	0.5	20.5	17.0	17.5	14.0	24.0	23.0	22.5	20.5	17.0	15.5
22	1.0	0.5	20.5	17.5	17.5	16.0	25.5	22.0	22.0	19.0	15.5	12.5
23	0.5	0.5	21.0	17.5	16.5	14.5	25.5	23.5	19.0	16.5	13.0	11.5
24	3.0	0.5	21.5	18.0	19.0	14.5	24.5	22.0	19.0	17.5	14.5	13.0
25	3.5	1.0	21.5	18.5	21.0	18.5	23.0	20.5	18.0	17.0	14.5	13.0
26	5.0	1.5	21.5	18.5	23.0	19.5	21.5	19.0	18.0	16.5	13.5	12.5
27	5.0	3.0	22.0	18.5	24.0	20.5	21.5	18.0	18.0	16.0	13.5	11.5
28	6.5	4.0	22.5	19.0	23.5	21.5	21.0	19.0	19.0	16.0	12.0	11.0
29	7.5	5.0	22.5	17.5	25.0	21.5	20.5	19.0	19.5	16.5	11.5	10.5
30	7.0	6.0	17.5	14.0	25.5	22.0	23.0	20.5	20.5	17.5	10.5	9.5
31	---	---	16.5	13.0	---	---	23.5	22.5	20.5	19.0	---	---
MONTH	7.5	0.0	22.5	5.0	25.5	14.0	25.5	16.5	23.0	13.5	20.0	9.5
YEAR	25.5	0.0										

04059500 FORD RIVER NEAR HYDE, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.5	9.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	11.0	9.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11.0	10.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	12.5	10.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	13.0	11.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	13.0	11.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	11.5	10.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	11.5	9.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	9.5	8.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	9.5	8.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	10.0	9.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	10.0	9.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	10.0	8.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	10.0	8.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	8.5	6.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	7.5	7.0	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	7.5	5.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	5.5	3.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	3.5	2.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
20	4.0	2.5	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
21	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
22	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
23	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
24	4.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
25	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
26	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.5
27	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	1.0
28	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	2.5
29	---	---	0.0	0.0	0.0	0.0	0.0	0.0	---	---	5.0	3.0
30	---	---	0.0	0.0	0.0	0.0	0.0	0.0	---	---	5.0	3.5
31	---	---	---	---	0.0	0.0	0.0	0.0	---	---	5.0	3.0
MONTH	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	3.5	10.0	7.0	14.5	12.0	21.5	17.0	19.0	18.0	25.0	23.5
2	3.5	2.5	7.0	6.0	16.0	11.5	22.0	19.5	20.5	17.5	25.0	23.5
3	2.5	2.0	6.0	4.5	16.5	13.5	24.0	20.0	21.0	17.0	24.5	22.5
4	2.0	1.5	6.5	4.0	16.5	12.5	23.5	21.5	21.5	18.0	24.5	22.0
5	2.0	0.5	8.5	5.5	17.0	15.0	22.5	20.0	24.0	20.0	22.0	20.5
6	4.0	1.0	8.5	7.5	17.5	15.0	23.5	20.5	24.0	22.0	20.5	18.5
7	3.5	2.5	8.5	8.0	17.0	15.0	26.5	23.0	22.5	21.5	19.0	17.0
8	4.0	2.5	8.0	8.0	16.5	14.0	27.5	24.5	22.0	21.5	18.0	15.5
9	3.5	1.5	8.5	7.5	17.5	13.5	27.0	23.5	24.0	22.0	16.5	14.5
10	2.5	0.5	10.5	8.5	19.5	15.5	25.0	21.5	23.5	22.0	17.5	15.0
11	4.0	0.5	10.0	9.5	19.5	17.5	24.0	20.5	22.5	21.0	17.5	16.0
12	4.0	1.5	10.0	8.5	19.0	17.5	22.5	21.0	22.5	20.5	16.0	14.5
13	5.0	1.5	9.5	7.5	20.0	16.0	22.5	21.0	22.5	20.5	15.5	14.5
14	6.5	3.0	8.5	7.5	20.5	16.5	22.5	21.0	21.5	19.5	16.0	14.5
15	6.5	4.5	9.5	7.0	21.5	17.5	22.0	19.0	21.0	19.5	15.5	13.5
16	5.0	4.0	8.5	7.5	21.5	17.5	22.0	20.0	21.5	19.5	14.5	12.5
17	6.5	3.0	10.5	7.0	18.0	16.0	23.5	20.0	22.0	20.5	13.0	11.5
18	7.5	4.5	9.0	7.5	16.5	15.5	23.5	21.5	22.0	20.0	12.5	11.5
19	7.0	6.0	12.0	8.0	20.5	16.5	25.5	22.0	21.5	20.5	12.5	10.5
20	7.5	6.5	12.5	9.0	20.5	18.5	24.5	22.0	21.0	19.0	11.5	9.0
21	10.0	7.5	14.5	10.0	20.0	18.0	23.0	21.0	20.5	17.5	10.0	9.0
22	10.5	9.5	15.5	11.5	20.0	18.0	23.5	21.0	19.0	16.0	11.5	10.0
23	9.5	7.5	15.0	12.5	18.0	17.0	23.0	21.5	18.5	17.5	11.0	10.5
24	8.5	6.0	14.0	12.0	20.5	16.5	22.5	21.5	19.0	16.0	13.0	10.5
25	9.5	7.0	13.5	11.5	20.5	18.5	25.5	21.5	19.0	18.0	13.5	12.5
26	9.5	6.5	13.0	11.0	21.5	18.0	26.0	23.5	19.0	18.0	15.0	13.0
27	9.0	7.0	13.0	12.0	21.5	20.0	24.0	22.0	23.5	19.0	15.5	15.0
28	8.5	6.0	12.5	10.5	20.5	17.5	22.0	20.0	25.0	23.0	15.5	13.0
29	9.0	5.5	13.0	9.0	17.0	16.5	22.0	19.5	26.0	23.5	14.0	13.0
30	10.0	7.0	13.5	9.5	18.0	17.0	21.5	20.5	25.5	24.0	13.5	10.5
31	---	---	14.5	12.0	---	---	21.5	19.0	25.0	23.0	---	---
MONTH	10.5	0.5	15.5	4.0	21.5	11.5	27.5	17.0	26.0	16.0	25.0	9.0
YEAR	27.5	0.0										

04062200 PESHEKEE RIVER NEAR CHAMPION, MICH.

LOCATION.--Lat 46°33'25", long 88°00'09", in NW¼ sec.13, T.48 N., R.30 W., Marquette County, temperature recorder at gaging station on left bank 10 ft (3m) downstream from bridge on county highway, 0.6 mi (1.0 km) downstream from West Branch, and 3.5 mi (5.6 km) northwest of Champion.

DRAINAGE AREA.--133 mi^2 (344 km^2).

PERIOD OF RECORD.--Water temperatures: August 1961 to September 1973.

EXTREMES.--1971-72:
Water temperatures: Maximum, 23.0°C July 31, Aug. 19, 21; minimum, freezing point on many days during December to May.
1972-73:
Water temperatures: Maximum, 25.0°C July 8, 25; minimum, freezing point on many days during November to March.
Period of record:
Water temperatures (1961-73): Maximum, 28.5°C July 1, 1966; minimum, freezing point on many days during winter period.

REMARKS.--Complete ice cover during the winter period.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.0	14.0	5.5	4.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
2	16.0	15.0	4.5	4.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
3	16.0	15.5	4.0	4.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
4	15.0	13.5	4.0	3.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	13.5	12.5	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	12.5	12.0	3.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	12.0	11.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	11.0	10.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	10.5	10.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	10.0	10.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	10.0	9.5	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	9.5	8.5	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	9.0	9.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.5	8.5	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	9.5	9.0	2.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	9.5	9.0	2.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	9.0	8.5	3.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	10.0	9.0	4.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	11.5	10.0	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	11.0	10.0	4.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	11.5	10.5	2.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	11.5	11.0	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	11.0	10.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	10.0	10.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	10.0	10.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	9.5	9.5	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	10.0	9.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	10.0	8.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	8.5	7.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	7.5	7.0	0.5	0.5	0.0	0.0	0.0	0.0	---	---	0.0	0.0
31	6.5	5.5	---	---	0.0	0.0	0.0	0.0	---	---	0.0	0.0
MONTH	16.0	5.5	5.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	0.0	0.0	17.0	15.0	21.0	18.5	22.0	19.5	20.0	18.5
2	0.0	0.0	0.0	0.0	18.0	16.0	20.5	18.5	21.5	19.5	18.0	16.0
3	0.0	0.0	1.0	0.0	20.0	17.5	18.5	16.5	21.0	19.0	17.0	14.5
4	0.0	0.0	1.5	1.0	20.0	18.0	18.5	15.0	20.5	17.0	17.0	14.0
5	0.0	0.0	2.5	1.5	19.0	17.5	20.0	16.0	20.0	17.5	17.5	15.5
6	0.0	0.0	3.0	3.0	18.5	16.0	19.5	16.5	20.0	17.5	16.0	15.0
7	0.0	0.0	4.0	3.0	20.0	17.0	18.5	17.0	18.5	16.5	16.0	15.5
8	0.0	0.0	5.5	4.0	21.0	19.0	19.5	16.5	18.0	16.5	16.5	15.0
9	0.0	0.0	6.5	5.0	20.0	16.5	19.5	18.5	16.5	15.0	16.5	14.0
10	0.0	0.0	8.0	6.0	17.0	14.5	20.0	17.0	17.0	14.5	16.0	15.0
11	0.0	0.0	9.5	7.0	16.5	15.0	22.0	19.0	17.5	17.0	17.5	16.0
12	0.0	0.0	9.5	8.5	15.0	15.0	21.0	19.5	20.0	16.0	17.0	14.5
13	0.0	0.0	9.0	8.5	16.0	15.0	21.0	19.0	20.0	18.0	17.0	16.0
14	0.0	0.0	9.5	9.0	17.5	16.0	21.0	19.5	19.5	18.5	16.0	15.0
15	0.0	0.0	12.0	9.5	18.0	16.5	21.5	19.0	21.0	17.0	16.0	15.0
16	0.0	0.0	13.0	12.0	18.5	15.5	20.5	18.5	20.5	19.0	15.0	14.0
17	0.0	0.0	14.5	13.0	19.5	15.5	19.5	18.5	22.0	19.5	14.0	13.5
18	0.0	0.0	15.5	15.0	20.5	16.5	21.0	18.5	22.0	20.5	15.0	14.0
19	0.0	0.0	16.0	15.0	21.5	17.5	22.0	19.5	23.0	20.0	15.0	14.0
20	0.0	0.0	17.5	16.0	21.0	15.0	22.0	21.5	22.5	20.0	15.0	15.0
21	0.0	0.0	18.5	18.0	15.5	14.0	21.5	20.5	23.0	21.5	15.0	13.5
22	0.0	0.0	18.5	18.0	16.0	15.0	21.0	20.5	22.5	19.0	13.5	12.5
23	0.0	0.0	20.0	18.0	16.0	15.0	21.5	20.5	19.0	17.5	13.0	12.5
24	0.0	0.0	20.5	19.0	17.0	14.5	21.5	20.0	18.5	17.5	13.5	13.0
25	0.0	0.0	20.5	19.0	18.0	16.5	20.5	19.5	17.5	17.5	13.5	13.0
26	0.0	0.0	21.0	19.0	20.0	17.0	19.5	18.0	17.5	17.0	13.0	13.0
27	0.0	0.0	21.0	19.0	21.0	18.0	20.0	17.5	18.5	17.0	13.0	12.5
28	0.0	0.0	21.0	19.5	21.0	19.5	19.5	18.0	19.0	17.5	12.5	12.5
29	0.0	0.0	21.0	17.0	21.0	19.5	21.0	18.0	19.0	17.5	12.5	12.5
30	0.0	0.0	17.0	14.0	21.5	19.0	21.0	19.0	20.5	18.0	12.5	12.0
31	---	---	15.0	14.0	---	---	23.0	20.5	20.5	20.0	---	---
MONTH	0.0	0.0	21.0	0.0	21.5	14.0	23.0	15.0	23.0	14.5	20.0	12.0
YEAR	23.0	0.0										

04062200 PESHEKEE RIVER NEAR CHAMPION, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	11.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	11.0	11.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11.5	11.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	12.0	11.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	12.5	12.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	12.5	12.5	3.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	12.0	11.0	3.5	3.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	11.0	10.0	3.0	3.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	9.5	8.5	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	8.5	8.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	8.0	8.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	8.0	8.0	3.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	8.0	7.5	2.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	8.0	8.0	2.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	8.0	7.0	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	6.5	6.5	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	6.5	5.5	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	5.5	5.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	4.5	4.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	4.0	4.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
21	4.0	4.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
22	4.0	4.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
23	4.0	3.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
24	3.0	3.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
25	3.0	3.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
26	3.5	3.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
27	4.5	3.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
28	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
29	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	1.0	0.5
30	3.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	1.5	1.0
31	3.0	3.0	---	---	0.0	0.0	0.0	0.0	---	---	1.5	1.5
MONTH	12.5	3.0	3.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	1.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1.5	1.5	8.0	6.0	16.0	14.0	19.0	16.5	17.0	15.0	23.5	22.0
2	1.5	1.5	6.0	3.5	16.5	13.5	20.0	18.0	18.5	15.0	24.0	23.0
3	1.5	1.0	3.5	2.5	17.0	16.0	21.0	18.0	19.5	15.0	24.0	23.0
4	1.0	1.0	4.0	2.5	18.5	15.5	20.5	18.5	20.0	15.0	24.0	23.0
5	1.0	1.0	6.0	4.0	19.5	18.5	21.0	18.0	21.5	18.5	23.0	21.0
6	1.5	1.0	6.5	6.0	19.0	17.5	23.0	18.5	21.0	19.0	21.0	19.0
7	1.5	1.0	6.5	6.5	19.0	17.0	24.0	20.5	19.5	18.5	19.0	17.0
8	2.0	1.5	7.0	7.0	18.0	16.0	25.0	21.0	19.0	18.0	19.0	16.0
9	2.0	1.5	9.0	7.0	17.5	15.5	23.5	20.0	21.0	18.0	18.5	15.0
10	2.0	1.5	9.0	9.0	19.0	17.5	21.0	19.5	20.5	18.0	19.0	16.0
11	2.0	1.5	9.0	9.0	19.5	18.0	23.0	18.0	19.0	18.0	19.5	18.0
12	2.5	1.5	9.0	8.0	20.0	18.5	22.0	20.0	20.0	15.5	17.0	15.0
13	3.5	1.5	8.5	7.5	19.5	17.5	22.0	18.5	19.5	16.5	17.0	14.5
14	4.0	2.5	8.5	8.0	19.5	17.0	21.5	18.5	18.5	16.5	16.5	16.0
15	4.0	3.5	8.0	7.5	21.0	17.5	22.0	18.0	20.0	17.0	16.0	15.5
16	3.5	2.0	8.0	8.0	21.0	19.0	22.0	17.5	20.0	18.0	15.5	13.5
17	3.0	1.5	8.5	8.0	19.0	16.5	24.0	19.0	20.0	17.0	15.0	13.0
18	4.5	2.5	9.5	8.5	17.5	16.5	23.5	21.0	21.0	17.5	14.0	11.0
19	5.0	4.5	10.5	10.0	20.0	17.5	23.5	20.5	20.0	19.0	14.0	12.0
20	5.5	5.0	11.5	10.5	19.5	18.5	22.5	20.0	19.0	17.0	12.0	10.0
21	7.5	5.5	13.5	11.5	19.0	18.0	22.0	18.0	17.5	15.5	11.5	10.0
22	7.5	7.5	13.5	12.5	18.5	17.5	23.0	18.0	17.0	15.0	11.5	11.0
23	7.5	7.0	13.5	12.5	18.0	17.5	22.0	18.5	17.5	16.0	11.0	11.0
24	7.0	5.0	13.5	13.0	20.0	16.0	21.0	19.0	18.0	14.0	13.0	11.0
25	6.5	5.5	13.0	12.0	20.0	18.0	25.0	20.0	17.0	16.0	14.5	13.0
26	7.0	6.0	12.5	12.0	19.0	17.0	24.0	20.0	19.0	17.0	15.0	13.0
27	7.0	6.5	14.0	13.0	19.0	18.5	22.0	19.0	22.0	18.5	15.5	14.5
28	6.5	6.0	14.0	13.5	19.0	17.0	20.5	17.0	22.5	19.5	15.0	13.5
29	7.0	5.5	14.0	12.0	17.0	16.0	19.0	16.5	24.0	21.5	14.5	13.5
30	8.0	6.5	15.0	12.0	16.5	16.0	19.0	17.5	24.0	21.5	14.0	12.5
31	---	---	16.0	14.5	---	---	18.0	16.0	23.0	21.0	---	---
MONTH	8.0	1.0	16.0	2.5	21.0	13.5	25.0	16.0	24.0	14.0	24.0	10.0
YEAR	25.0	0.0										

04065500 STURGEON RIVER NEAR FOSTER CITY, MICH.

LOCATION.--Lat 45°54'30", long 87°45'13", in NW¼ sec.36, T.41 N., R.28 W., Dickinson County, temperature recorder at gaging station on left bank 30 ft (9m) downstream from bridge on County Highway 569, 1.8 mi (2.9 km) downstream from confluence of East and West Branches, and 4 mi (6 km) south of Foster City.

DRAINAGE AREA.--237 mi^2 (614 km^2).

PERIOD OF RECORD.--Water temperatures: July 1956 to September 1973.

EXTREMES.--1971-72:
Water temperatures: Maximum, 24.0°C July 23; minimum, freezing point on many days December to April.
1972-73:
Water temperatures: Maximum, 27.5°C July 8; minimum, freezing point on many days November to March.
Period of record:
Water temperatures (1956-73): Maximum 30.0°C July 1, 1963; minimum, freezing point on many days during winter period.

REMARKS.--Complete ice cover during the winter period. Recorder stopped October 10-26, 1971, range in temperature 9.0°C to 13.5°C.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.5	13.5	8.5	6.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	17.0	16.0	6.5	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	17.0	17.0	6.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	17.0	15.0	6.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	15.0	14.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	14.0	12.5	5.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	12.5	11.5	3.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	11.5	11.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	11.5	11.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	---	---	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	---	---	2.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	---	---	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	---	---	3.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	---	---	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	---	---	4.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	---	---	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	---	---	6.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	---	---	6.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	---	---	6.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	---	---	5.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	---	---	4.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	---	---	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	---	---	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	---	---	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	---	---	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	---	---	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	13.0	12.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	13.0	11.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	11.5	10.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	10.5	9.5	0.5	0.5	0.0	0.0	0.0	0.0	---	---	0.0	0.0
31	10.0	8.5	---	---	0.0	0.0	0.0	0.0	---	---	0.0	0.0
MONTH	---	---	8.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	6.5	6.0	16.5	14.0	22.0	19.5	22.5	20.0	19.5	18.5
2	0.0	0.0	6.0	5.5	18.0	15.0	22.0	19.5	22.0	20.0	18.5	16.5
3	0.0	0.0	6.0	5.0	20.0	17.0	20.5	17.5	22.0	19.5	17.0	15.0
4	0.0	0.0	7.5	6.0	20.5	18.0	18.0	15.5	21.5	17.5	17.0	14.5
5	0.0	0.0	9.0	7.5	19.5	17.0	19.0	15.5	21.5	17.5	18.0	15.5
6	0.0	0.0	10.0	9.0	20.0	16.0	19.0	16.0	20.5	17.5	16.5	15.5
7	0.0	0.0	10.5	9.0	20.5	17.0	18.5	16.5	19.0	16.5	17.0	15.5
8	0.0	0.0	10.5	8.5	22.5	19.0	18.5	15.5	18.0	15.0	17.5	15.5
9	0.0	0.0	10.5	9.0	21.5	16.5	18.5	17.0	15.5	13.0	17.0	14.0
10	0.0	0.0	10.5	9.0	18.5	14.5	20.5	17.0	16.0	13.0	16.0	14.5
11	0.0	0.0	13.0	9.5	17.0	14.5	21.5	19.0	17.0	15.5	16.0	15.0
12	0.0	0.0	14.0	12.0	15.0	14.5	22.0	19.5	19.5	15.5	16.5	14.0
13	0.0	0.0	14.0	12.5	15.0	14.5	23.5	19.5	21.0	17.5	17.0	16.0
14	0.0	0.0	13.0	12.0	16.5	15.0	22.0	20.5	20.5	19.5	17.5	15.5
15	0.0	0.0	15.0	12.0	16.5	15.0	22.0	19.0	21.0	17.5	17.5	14.5
16	0.0	0.0	16.5	13.0	18.0	13.5	21.0	19.0	20.0	18.5	15.5	14.0
17	0.0	0.0	18.5	15.0	18.5	14.5	19.5	18.5	20.0	18.0	16.0	13.0
18	0.0	0.0	19.0	16.5	20.0	15.5	22.0	18.0	20.0	19.0	16.5	14.5
19	0.0	0.0	20.0	17.5	21.0	16.5	22.5	19.5	21.0	19.0	16.0	14.0
20	0.5	0.0	20.0	18.5	20.0	16.5	23.0	21.5	20.0	19.0	16.5	15.0
21	0.5	0.0	20.5	18.0	17.5	15.0	22.5	21.0	21.5	20.0	16.0	14.0
22	0.5	0.0	20.5	18.0	17.5	14.5	23.0	20.5	21.0	19.0	14.0	12.5
23	0.0	0.0	21.0	18.5	16.0	14.0	24.0	21.5	19.0	17.5	13.0	11.5
24	2.0	0.0	21.5	19.0	18.0	13.5	23.5	21.5	18.5	17.5	13.0	12.5
25	2.0	1.0	22.0	19.0	19.0	16.5	23.0	20.5	17.5	17.0	13.0	12.0
26	3.5	2.0	22.0	19.0	22.0	17.0	20.5	19.0	17.5	16.5	12.0	11.5
27	4.5	3.5	22.0	18.5	23.0	18.5	20.5	18.0	18.0	16.5	12.0	11.0
28	5.5	4.5	22.0	19.0	22.0	20.0	20.0	18.5	18.5	16.5	11.5	11.0
29	6.5	5.5	21.0	16.5	23.0	20.0	21.5	18.0	19.0	17.0	11.0	10.5
30	6.5	6.5	16.5	14.5	23.5	20.0	23.0	19.0	19.5	17.5	10.5	9.5
31	---	---	15.0	12.5	---	---	23.5	21.0	19.5	19.0	---	---
MONTH	6.5	0.0	22.0	5.0	23.5	13.5	24.0	15.5	22.5	13.0	19.5	9.5
YEAR	24.0	0.0										

04065500 STURGEON RIVER NEAR FOSTER CITY, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	9.5	4.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	10.0	9.5	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11.0	10.0	4.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	12.0	11.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	12.5	11.5	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	13.0	12.0	4.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	12.0	11.0	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	11.0	9.5	4.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	9.5	8.5	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	8.5	8.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	8.5	8.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	9.0	8.5	4.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	9.0	7.5	3.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	8.5	7.5	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	7.5	6.5	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	7.0	6.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	6.0	4.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	4.5	3.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
19	3.5	2.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
20	3.5	2.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
21	3.5	3.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.5
22	4.0	3.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.5
23	4.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.0
24	3.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.5
25	3.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.0
26	4.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	2.0
27	5.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	2.5
28	6.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	3.5
29	5.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	5.0	4.0
30	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	5.5	4.0
31	4.5	4.0	---	---	0.0	0.0	---	0.0	---	---	5.0	4.0
MONTH	13.0	2.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.5	3.5	10.5	8.5	15.5	14.0	19.5	18.0	18.5	16.5	23.0	21.5
2	3.5	3.0	8.5	6.0	16.5	13.5	22.5	20.5	19.0	16.0	23.0	22.0
3	3.0	2.5	6.0	5.0	16.5	15.5	23.0	20.5	19.0	16.5	23.0	22.0
4	2.5	2.0	6.5	4.0	17.0	14.0	22.5	21.0	19.5	17.0	23.0	22.5
5	2.0	1.5	9.0	6.0	18.5	16.5	23.0	20.0	21.5	18.5	22.5	20.5
6	3.5	1.5	10.0	9.0	18.0	16.5	23.5	20.5	21.5	20.5	20.5	18.5
7	4.5	3.0	10.0	9.5	19.0	17.0	25.5	22.0	21.0	20.0	18.5	17.0
8	4.0	2.5	9.5	9.0	18.0	16.0	27.5	23.5	20.5	20.0	17.0	16.0
9	3.5	2.0	10.5	8.0	19.5	15.5	26.5	23.0	21.0	19.0	17.0	14.5
10	3.0	1.0	11.5	10.5	21.0	18.0	24.0	21.5	20.5	19.0	17.5	15.0
11	3.5	2.0	11.5	11.0	21.0	19.5	23.5	20.0	20.0	18.5	17.0	15.0
12	4.0	2.5	11.5	10.0	20.5	19.5	23.0	20.5	21.0	17.5	16.5	14.0
13	5.0	2.5	10.5	9.0	21.0	18.5	21.0	19.5	20.5	18.0	15.5	14.0
14	6.5	4.0	10.5	9.0	21.0	18.5	21.0	19.5	19.5	17.5	15.5	14.5
15	6.5	5.5	10.0	8.5	21.5	19.5	21.0	18.5	19.0	18.0	14.5	13.5
16	5.5	5.0	9.5	9.0	21.5	19.0	21.0	18.0	20.0	18.0	14.0	12.0
17	6.0	3.5	11.5	8.0	19.0	17.5	22.5	19.0	20.0	19.5	13.0	11.5
18	8.0	5.5	11.0	9.0	18.5	17.0	22.5	20.5	20.0	18.5	12.5	10.0
19	8.0	7.5	11.5	10.0	20.5	18.0	24.0	21.0	20.0	19.5	11.5	10.0
20	8.5	8.0	13.0	10.5	20.5	19.5	23.5	21.0	20.0	18.5	11.0	8.5
21	11.5	8.5	15.0	11.5	21.0	19.0	22.0	20.0	19.5	18.0	10.5	9.0
22	11.5	11.0	15.5	13.0	20.5	19.0	22.5	19.5	19.0	17.0	10.0	9.5
23	11.0	8.5	15.5	13.5	19.5	18.0	22.0	19.5	18.0	17.5	10.0	9.5
24	9.5	7.0	15.0	13.5	21.5	18.0	21.0	20.0	18.5	15.5	12.0	10.0
25	10.5	8.5	14.0	12.5	21.0	19.5	24.0	20.0	18.5	17.5	13.0	11.5
26	10.5	8.0	14.0	12.0	21.5	19.0	24.0	22.0	19.5	17.5	14.0	12.5
27	10.0	8.0	14.0	13.0	21.5	20.0	23.0	21.0	22.0	18.5	15.5	14.0
28	9.5	7.0	13.0	12.0	21.0	19.0	21.5	19.5	23.5	20.5	15.0	13.0
29	9.5	7.5	14.0	11.0	19.0	18.0	21.5	19.0	24.5	21.5	14.0	13.0
30	10.5	8.5	15.0	11.5	18.5	17.5	21.0	19.5	24.0	22.5	13.5	11.5
31	---	---	14.0	14.0	---	---	21.0	18.5	23.0	21.5	---	---
MONTH	11.5	1.0	16.0	4.0	21.5	13.5	27.5	18.0	24.5	15.5	23.0	8.5
YEAR	27.5	0.0										

04065600 PINE CREEK NEAR IRON MOUNTAIN, MICH.

LOCATION.--Lat 45°55'51", long 87°58'18", in SE¼ SE¼ sec.19, T.41 N., R.29 W., Dickinson County, temperature recorder at gaging station on left bank, 20 ft. (6m) upstream from bridge on County Road 866, 1.2 mi (1.9 km) downstream from Steel Creek and 9.0 mi (14.5 km) northeast of Iron Mountain.

DRAINAGE AREA.--16.8 mi² (43.5 km²).

PERIOD OF RECORD.--Water temperatures: November 1971 to September 1973.

EXTREMES.--1971-72:
Water temperatures: Maximum, 22.5°C August 21, 22; minimum, freezing point on many days during November to April.
1972-73:
Water temperatures: Maximum, 24.0°C July 8, 9; minimum, freezing point on many days during November to March.
Period of record:
Water temperatures (1971-73): Maximum 24.0°C July 8, 9, 1973; minimum, freezing point on many days during winter period.

REMARKS.--Complete ice cover during the winter period. Recorder stopped Aug. 22 to Sept. 5, 1973, range in temperature 15.0°C to 22.0°C and Sep. 27-30, no range in temperature recorded. Miscellaneous chemical analyses for this station are published on page 220.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	---	---	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	---	---	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	---	---	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	---	---	2.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	---	---	3.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	---	---	4.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	---	---	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	---	---	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	---	---	6.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	---	---	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	---	---	5.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	---	---	4.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	---	---	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	---	---	0.0	0.0	0.0	0.0	0.0	0.0	---	---	0.0	0.0
31	---	---	---	---	0.0	0.0	0.0	0.0	---	---	0.0	0.0
MONTH	---	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	6.0	5.0	17.0	15.0	19.0	17.0	20.0	18.0	20.5	15.5
2	0.0	0.0	5.0	5.0	18.5	16.5	17.5	17.0	19.0	18.5	19.5	17.5
3	0.0	0.0	6.5	5.0	20.0	18.0	17.0	15.0	19.0	18.0	17.5	15.5
4	0.0	0.0	8.0	6.0	20.0	17.0	15.0	13.5	18.0	15.0	15.5	15.0
5	0.0	0.0	10.0	7.0	19.5	17.0	15.0	13.0	18.5	15.5	16.0	15.5
6	0.0	0.0	10.5	10.0	18.5	16.0	15.5	14.5	18.5	17.5	16.0	15.5
7	0.0	0.0	10.5	8.0	20.0	17.0	15.5	15.0	17.5	16.5	16.0	16.0
8	0.0	0.0	10.5	8.5	21.5	19.0	15.0	14.5	17.0	16.5	16.0	16.0
9	0.0	0.0	11.0	9.0	21.5	17.0	16.0	15.0	16.5	15.0	16.0	14.5
10	0.0	0.0	11.0	9.5	17.0	14.5	17.0	15.5	15.0	14.5	14.5	14.5
11	0.0	0.0	13.0	10.5	15.0	14.0	19.0	17.0	16.0	14.5	15.5	14.5
12	0.0	0.0	14.5	13.0	15.0	14.5	19.5	18.5	18.0	16.0	15.5	14.0
13	0.0	0.0	14.5	13.5	15.0	15.0	19.5	18.0	19.0	17.5	15.5	14.5
14	0.0	0.0	13.5	13.5	16.5	15.0	19.5	18.5	19.0	18.5	15.5	15.5
15	0.0	0.0	15.0	13.0	16.5	15.5	19.0	18.5	18.5	17.0	15.5	15.0
16	0.0	0.0	17.5	14.5	19.5	14.0	19.0	17.5	18.5	18.0	15.0	14.0
17	0.0	0.0	18.0	16.5	16.0	14.0	18.0	17.5	20.5	18.5	14.0	14.0
18	0.0	0.0	19.0	17.0	17.0	14.0	19.5	17.5	20.5	20.5	14.0	14.0
19	0.0	0.0	20.0	17.0	19.0	15.5	19.5	18.0	22.0	20.5	14.0	14.0
20	0.0	0.0	20.0	18.0	19.0	16.0	20.0	19.5	22.0	21.0	15.0	14.0
21	0.0	0.0	21.0	17.5	16.0	15.0	20.0	20.0	22.5	21.0	15.0	15.0
22	0.0	0.0	20.5	18.0	16.0	15.0	21.5	19.5	22.5	19.5	15.0	12.0
23	1.0	0.0	21.0	17.5	15.5	15.0	21.5	20.5	19.5	18.5	12.0	12.0
24	4.5	1.0	21.0	17.5	16.5	14.5	22.0	20.0	18.5	18.5	13.0	12.0
25	5.0	3.5	20.5	18.0	17.0	16.5	21.0	19.5	19.0	18.5	13.0	13.0
26	6.0	4.0	21.0	18.0	18.5	16.5	19.5	18.0	19.0	19.0	13.0	12.5
27	6.0	4.0	20.5	17.5	19.5	17.0	18.0	18.0	19.0	18.5	12.5	12.0
28	6.5	4.5	21.0	18.0	19.5	18.5	18.0	17.5	19.5	18.5	12.0	12.0
29	7.5	4.5	21.0	16.5	19.5	18.5	19.0	17.5	19.5	19.0	12.0	12.0
30	7.5	6.5	16.5	15.0	19.5	18.5	20.0	18.0	20.5	19.0	12.0	12.0
31	---	---	15.0	14.5	---	---	20.0	20.0	20.5	20.5	---	---
MONTH	7.5	0.0	21.0	5.0	21.5	14.0	22.0	13.0	22.5	14.5	20.5	12.0
YEAR	22.5	0.0										

04065600 PINE CREEK NEAR IRON MOUNTAIN, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.0	12.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	12.0	12.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	12.0	12.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	12.0	12.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	12.5	12.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	12.5	12.5	4.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	12.5	12.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	12.0	12.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	12.0	11.5	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	11.5	11.5	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	11.5	11.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	11.5	11.0	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	11.0	10.5	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	10.5	10.5	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	10.5	8.5	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	8.5	8.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	7.0	5.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	5.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
22	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
23	4.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
24	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
25	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0
26	5.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.0
27	5.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.0
28	5.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	2.5
29	5.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	3.0	3.0
30	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	3.5	3.0
31	4.5	4.5	---	---	0.0	0.0	0.0	0.0	---	---	3.5	3.0
MONTH	12.5	3.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.0	3.0	9.5	7.0	16.0	14.5	20.0	17.5	18.0	17.0	---	---
2	3.0	3.0	7.0	6.0	17.0	14.0	21.0	20.0	17.5	16.5	---	---
3	3.0	3.0	6.0	5.0	17.0	16.0	21.0	19.0	18.0	16.0	---	---
4	3.0	2.5	7.0	4.5	17.0	14.5	21.5	20.0	19.0	17.0	---	---
5	2.5	2.0	9.0	6.0	18.0	17.0	20.5	18.5	21.0	19.0	---	---
6	3.0	2.0	9.0	9.0	18.0	16.5	21.5	19.5	21.0	20.5	20.5	18.0
7	3.0	3.0	9.0	8.5	18.0	16.0	23.0	21.0	20.5	20.0	18.0	15.5
8	3.0	2.5	8.5	8.0	16.5	15.0	24.0	22.5	20.0	20.0	16.0	15.0
9	3.0	2.5	9.5	8.0	18.0	15.0	24.0	20.5	20.0	19.0	15.0	14.0
10	2.5	2.0	10.0	9.5	20.5	18.0	20.5	20.0	20.0	18.5	16.0	14.0
11	3.0	2.0	10.5	10.0	21.0	19.5	19.5	18.5	19.0	18.5	16.0	14.0
12	3.0	3.0	10.5	9.0	20.0	19.0	19.5	19.0	18.5	16.5	14.0	13.0
13	4.0	2.5	10.0	8.0	19.0	17.0	19.5	19.0	18.5	17.0	13.0	13.0
14	6.0	4.0	10.0	8.5	19.5	17.0	19.5	18.0	18.0	17.0	13.5	13.0
15	6.0	5.0	9.0	8.0	20.5	18.0	19.0	17.0	18.0	18.0	13.5	13.0
16	5.0	3.5	9.0	9.0	20.5	18.0	18.0	17.0	19.0	18.0	13.0	12.0
17	5.0	2.5	11.0	8.0	18.0	16.5	20.0	17.5	19.0	18.5	12.0	11.0
18	7.0	4.5	11.0	11.0	17.5	16.5	20.0	19.0	19.5	18.5	11.0	9.0
19	7.0	6.5	12.0	11.0	19.0	17.5	21.0	19.5	19.5	19.5	9.5	9.5
20	7.5	6.5	13.0	11.5	19.5	18.5	21.0	20.0	19.5	19.0	9.5	8.5
21	11.0	7.5	15.0	12.0	19.0	18.0	20.0	18.0	19.0	17.0	8.5	8.0
22	11.0	9.0	15.5	13.5	18.5	17.5	19.0	17.0	---	---	9.0	8.5
23	9.0	7.5	15.5	13.5	17.5	17.5	19.0	17.0	---	---	9.0	9.0
24	8.5	6.0	15.0	13.5	18.5	15.5	18.5	18.0	---	---	11.0	9.0
25	9.0	8.5	13.5	13.0	18.5	17.0	21.0	18.5	---	---	13.0	11.0
26	9.0	7.5	13.5	12.5	18.0	17.0	21.0	20.0	---	---	13.0	13.0
27	9.0	7.0	13.5	13.0	17.0	15.5	20.5	19.5	---	---	---	---
28	8.0	6.5	13.5	13.0	17.0	17.0	19.5	18.0	---	---	---	---
29	9.0	6.5	14.0	13.0	17.0	16.0	19.0	17.0	---	---	---	---
30	9.5	7.5	15.0	12.0	17.5	17.0	19.0	18.5	---	---	---	---
31	---	---	16.0	15.0	---	---	19.0	18.0	---	---	---	---
MONTH	11.0	2.0	16.0	4.5	21.0	14.0	24.0	17.0	---	---	---	---
YEAR	24.0	0.0										

04106000 KALAMAZOO RIVER AT COMSTOCK, MICH.

LOCATION.--Lat 42°12'05", long 85°30'50", in NE¼ sec.19, T.2 S., R.10 W., Kalamazoo County, temperature recorder at gaging station on left bank at downstream side of bridge on River Street in Comstock, 0.2 mi (0.3 km) downstream from Comstock Creek.
DRAINAGE AREA.--1,010 mi^2 (2,620 km^2), approximately.
PERIOD OF RECORD.--Chemical analyses: August 1964 to September 1971 (partial-record station); October 1971 to September 1973.
Water temperatures: December 1968 to September 1973.
EXTREMES.--1971-72:
Water temperatures: Maximum, 30.5°C July 14-16, 24; minimum, 2.0°C Feb. 5.
1972-73:
Water temperatures: Maximum, 31.0°C August 30, 31, Sept. 1, 4; minimum, 3.0°C Dec. 27 to Jan. 8.
Period of record:
Water temperatures (1968-73): Maximum, 32.0°C July 15-17, Aug. 29, 1969; minimum freezing point on several days during winter periods.
REMARKS.--Flow regulated by powerplant above station. No temperature record June 10-15, 1973, due to instrument malfunction.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	NITRATE (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
NOV. 05...	1055	470	288	0	236	50	26	--	.77	.13
FEB. 16...	1445	542	284	0	233	50	44	--	.06	--
APR. 03...	1155	1050	--	--	--	--	--	--	--	--
13...	1100	980	250	0	205	61	22	--	.04	--
MAY 12...	0930	1230	--	--	--	--	--	--	--	--
JUNE 09...	0945	704	--	--	--	--	--	--	--	--
JULY 14...	1035	640	--	--	--	--	--	--	--	--
AUG. 16...	0930	464	230	0	189	54	31	.3	.29	.26
SEP. 15...	1030	1100	--	--	--	--	--	--	--	--

DATE	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)
NOV. 05...	376	533	290	54	600	8.0	14.5	--	--
FEB. 16...	398	559	300	67	570	6.7	6.0	15	5
APR. 03...	--	--	--	--	560	--	7.0	--	--
13...	322	852	270	64	548	7.2	10.5	15	1
MAY 12...	--	--	--	--	520	--	19.5	--	--
JUNE 09...	--	--	--	--	520	--	26.0	--	--
JULY 14...	--	--	--	--	540	--	30.5	--	--
AUG. 16...	322	403	260	71	550	8.2	24.0	--	5
SEP. 15...	--	--	--	--	540	--	21.5	--	--

DATE	AIR TEMPERATURE (DEG C)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COBALT (CO) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
NOV. 05...	--	--	--	--	--	--	--	--	--
FEB. 16...	1.5	--	--	--	--	--	--	--	--
APR. 03...	--	--	--	--	--	--	--	--	--
13...	10.5	--	--	--	--	--	--	--	--
MAY 12...	21.5	--	--	--	--	--	--	--	--
JUNE 09...	--	--	--	--	--	--	--	--	--
JULY 14...	--	--	--	--	--	--	--	--	--
AUG. 16...	21.0	--	1	0	0	1	2	20	20
SEP. 15...	--	0	--	--	--	--	--	--	--

04106000 KALAMAZOO RIVER AT COMSTOCK, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	NITRATE (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
OCT.										
16...	0935	680	--	--	--	--	--	--	--	--
NOV.										
15...	0925	1200	--	--	--	--	--	--	--	--
DEC.										
08...	1000	728	284	0	233	53	35	.1	.11	.01
JAN.										
15...	0915	1260	--	--	--	--	--	--	--	--
FEB.										
16...	0930	980	--	--	--	--	--	--	--	--
MAR.										
21...	0940	1820	220	0	180	43	24	--	.79	.10
APR.										
17...	0930	1440	--	--	--	--	--	--	--	--
MAY										
18...	0940	1110	284	0	233	E11	25	--	E.45	--
JUNE										
18...	1025	1170	286	0	235	E34	26	--	E.63	--
JULY										
02...	1030	1520	272	0	223	E31	27	--	E.86	--
18...	0955	980	--	--	--	--	--	--	--	--
AUG.										
07...	0930	1180	272	0	223	39	22	--	.34	.12
SEP.										
04...	1000	769	--	--	--	--	--	--	--	--
24...	0945	720	--	--	--	--	--	--	--	--

DATE	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)
OCT.										
16...	--	--	--	--	600	--	15.0	--	--	13.0
NOV.										
15...	--	--	--	--	550	--	5.0	--	--	-9.5
DEC.										
08...	380	747	290	57	580	7.4	5.0	--	1	-7.0
JAN.										
15...	--	--	--	--	500	--	4.5	--	--	5.0
FEB.										
16...	--	--	--	--	590	--	5.0	--	--	-10.0
MAR.										
21...	298	1460	240	60	480	7.4	7.0	--	10	5.0
APR.										
17...	--	--	--	--	530	8.1	13.0	--	--	9.5
MAY										
18...	--	--	288	55	530	8.8	16.0	5	5	13.5
JUNE										
18...	--	--	294	59	580	7.2	25.0	15	12	22.0
JULY										
02...	--	--	276	53	600	8.2	24.5	15	16	27.0
18...	--	--	--	--	525	7.6	25.0	--	--	25.0
AUG.										
07...	352	1120	280	56	545	7.2	28.0	--	5	22.5
SEP.										
04...	--	--	--	--	570	8.0	31.0	--	--	31.0
24...	--	--	--	--	580	7.6	20.5	--	--	13.0

04106000 KALAMAZOO RIVER AT COMSTOCK, MICH.-Continued

TEMPERATURES (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	22.5	22.0	17.0	15.0	9.5	9.0	5.0	5.0	5.0	4.0	6.5	5.0
2	22.5	22.0	17.0	16.5	9.5	9.0	5.0	4.5	5.0	4.0	6.5	6.0
3	23.0	21.0	16.5	15.5	10.0	9.0	5.5	4.5	5.0	4.0	6.5	5.0
4	23.0	22.5	15.5	14.5	9.5	8.5	5.5	4.5	4.5	3.5	6.5	6.0
5	23.0	23.0	15.5	14.0	9.5	9.0	5.5	5.5	4.5	2.0	6.0	5.0
6	23.0	22.0	14.0	14.0	10.0	8.5	6.0	5.0	3.0	3.0	5.5	5.0
7	22.0	20.5	13.5	12.5	9.5	8.5	6.0	5.0	4.5	3.0	5.5	4.0
8	20.5	19.0	12.5	12.0	9.5	9.0	5.0	4.0	5.5	3.5	6.0	4.0
9	19.0	18.5	12.0	11.5	9.5	9.5	4.5	4.0	6.0	4.0	5.5	5.0
10	18.5	18.0	12.0	11.5	10.0	9.5	5.5	4.0	6.0	4.0	6.5	4.0
11	19.0	18.0	12.0	11.5	10.0	9.5	6.0	5.0	6.0	3.5	6.5	4.0
12	19.0	18.5	12.5	11.5	9.5	8.5	5.5	4.5	6.5	4.0	6.0	4.5
13	19.0	19.0	12.5	12.0	9.0	7.5	5.5	4.5	5.5	4.0	5.5	4.5
14	18.5	18.0	13.0	12.0	9.0	8.0	5.0	3.5	6.0	4.0	5.5	5.0
15	19.0	18.5	13.5	13.0	8.5	7.0	5.0	3.5	6.0	4.0	5.5	4.5
16	19.5	18.5	14.0	13.5	8.5	7.5	5.0	3.5	6.0	4.0	5.5	4.5
17	19.5	17.5	14.0	13.5	8.5	7.5	5.0	3.5	6.5	4.5	5.5	5.5
18	19.5	17.0	14.5	14.0	8.0	7.0	4.5	3.5	6.0	5.0	5.5	4.5
19	20.0	18.5	14.5	13.5	7.0	5.5	4.5	3.5	6.0	4.5	5.5	5.0
20	20.5	18.0	13.5	10.5	7.5	6.0	4.5	3.0	5.0	4.0	6.0	5.0
21	20.5	19.0	12.5	11.5	7.0	6.0	4.5	3.0	6.5	4.5	6.5	5.5
22	20.5	20.5	11.5	11.0	7.0	6.0	4.5	3.0	6.5	4.5	6.5	6.0
23	20.0	19.0	11.0	10.0	7.0	5.5	3.5	3.0	6.0	5.0	6.5	5.5
24	19.0	18.5	10.5	10.0	7.0	6.0	4.5	3.0	7.0	5.0	5.5	4.5
25	19.5	18.5	10.5	10.0	6.0	6.0	4.5	3.0	6.0	4.5	6.5	5.0
26	19.5	19.0	10.0	10.0	7.0	6.0	5.5	4.5	6.5	4.5	6.0	5.5
27	19.0	18.5	10.5	10.0	8.0	6.0	5.0	3.5	5.0	4.0	7.5	6.0
28	18.5	18.5	10.0	9.5	8.0	6.5	5.0	3.5	7.0	4.0	8.0	6.5
29	18.5	18.5	10.5	10.0	7.5	6.0	5.0	3.5	7.5	3.5	8.0	7.0
30	18.5	18.5	10.0	9.5	6.0	5.0	5.0	3.5	---	---	7.0	6.0
31	18.5	15.5	---	---	5.0	5.0	5.0	3.5	---	---	6.5	5.5
MONTH	23.0	15.5	17.0	9.5	10.0	5.0	6.0	3.0	7.5	2.0	8.0	4.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.5	5.5	17.0	15.0	22.0	20.0	27.0	25.0	29.5	25.5	29.0	26.5
2	5.5	5.5	18.0	16.0	23.5	20.0	26.0	25.5	29.0	25.0	28.0	25.5
3	7.0	5.5	17.5	16.0	22.0	20.0	28.0	26.0	29.0	25.5	26.0	24.5
4	7.5	6.0	17.5	15.0	22.5	21.5	27.5	25.0	27.5	24.5	24.0	23.0
5	8.0	6.5	18.5	16.0	25.0	23.0	25.0	25.0	26.0	24.0	25.0	23.0
6	8.5	7.0	19.0	18.5	25.5	23.5	24.0	24.0	26.0	25.0	25.5	22.5
7	8.0	7.0	19.0	16.5	26.0	24.0	23.5	23.5	26.5	24.5	25.0	23.0
8	7.0	5.5	17.0	16.0	26.5	24.5	24.5	24.5	26.0	23.0	24.0	22.5
9	6.5	6.0	17.5	15.5	26.5	24.5	25.0	25.0	24.0	22.0	24.0	22.0
10	9.0	6.5	18.0	15.5	26.0	23.5	25.5	25.5	25.0	22.5	22.5	21.5
11	10.0	8.0	19.0	17.0	23.5	23.0	29.5	26.5	25.0	23.0	22.5	21.5
12	10.5	8.5	20.0	18.0	24.0	23.0	30.0	28.0	26.0	23.5	23.0	21.0
13	11.0	9.5	19.0	18.0	25.0	23.5	30.0	28.5	26.5	23.5	23.0	21.5
14	11.0	10.0	18.0	18.0	26.0	23.5	30.5	28.0	27.0	24.5	22.5	21.0
15	10.5	10.0	20.0	18.5	27.0	25.0	30.5	28.0	28.0	24.0	22.0	20.5
16	10.0	9.5	19.5	18.5	27.0	25.5	30.5	27.0	27.5	24.0	22.0	20.5
17	11.5	10.0	20.5	18.5	24.5	24.5	28.0	26.5	27.5	25.5	21.5	21.0
18	12.0	11.0	20.0	19.0	24.5	24.5	30.0	27.5	28.0	25.5	23.0	21.5
19	13.0	12.5	22.5	20.0	25.0	25.0	29.5	27.5	29.5	27.0	23.0	21.5
20	12.5	12.5	22.5	21.0	26.0	26.0	30.0	28.0	28.5	26.0	22.5	20.5
21	12.5	11.5	23.5	21.5	25.0	25.0	30.0	29.0	29.0	26.5	22.0	20.5
22	12.0	11.0	24.0	22.0	24.0	24.0	30.0	29.0	29.5	27.0	21.5	19.5
23	11.5	10.0	24.5	23.0	22.5	22.5	30.0	28.0	29.5	27.5	21.5	19.5
24	11.5	10.5	24.5	23.0	22.0	22.0	30.5	28.5	29.5	27.0	21.0	19.5
25	12.0	10.5	25.0	23.0	21.5	21.5	30.0	26.5	28.5	26.0	21.5	19.5
26	13.0	11.5	25.0	23.0	22.0	22.0	29.0	25.5	29.0	26.0	22.0	20.0
27	14.5	12.0	23.5	22.0	23.0	23.0	28.0	25.0	28.5	27.0	22.0	20.5
28	15.0	13.5	23.0	22.0	23.5	23.5	27.5	26.0	29.0	26.0	21.5	20.0
29	16.0	14.5	23.0	22.0	25.5	25.5	28.0	26.0	29.5	26.0	21.5	20.0
30	15.5	14.0	24.0	23.0	25.0	25.0	28.0	26.5	28.5	26.0	21.0	19.0
31	---	---	22.0	21.5	---	---	29.0	27.0	29.0	26.5	---	---
MONTH	16.0	5.5	25.0	15.0	27.0	20.0	30.5	23.5	29.5	22.0	29.0	19.0
YEAR	30.5	2.0										

04106000 KALAMAZOO RIVER AT COMSTOCK, MICH.--Continued

TEMPERATURES (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	18.0	10.0	9.0	6.0	4.0	3.0	3.0	5.5	4.5	5.0	4.5
2	19.0	17.5	10.0	8.5	5.5	4.0	3.5	3.0	6.0	4.0	5.5	5.0
3	19.5	17.5	10.0	9.0	5.5	4.0	3.5	3.0	5.0	4.0	6.0	6.0
4	19.0	17.5	10.0	9.0	5.5	4.0	3.5	3.0	5.0	4.0	6.0	5.5
5	19.0	17.5	9.5	8.5	6.0	4.0	3.0	3.0	5.0	4.0	6.0	5.5
6	20.5	20.0	9.5	8.0	6.0	4.0	3.5	3.0	5.0	4.0	6.5	5.5
7	19.0	17.0	9.0	8.5	5.0	3.5	3.5	3.0	5.5	4.5	7.5	6.0
8	18.5	16.5	9.5	8.5	5.5	4.0	4.0	3.0	5.0	4.0	8.0	7.5
9	17.5	15.5	9.0	8.0	5.0	4.0	4.5	3.5	5.0	4.5	7.5	7.5
10	17.0	15.0	9.0	7.5	5.0	3.5	5.0	4.5	5.0	4.5	7.5	7.0
11	17.0	15.0	8.5	7.5	6.0	4.0	5.5	4.5	5.0	3.5	8.0	7.5
12	17.0	16.5	8.0	7.0	5.5	3.5	5.5	5.0	5.0	3.5	8.5	8.0
13	17.0	14.5	7.5	7.0	5.5	3.5	5.0	3.5	5.0	4.5	8.5	8.0
14	15.5	14.0	7.0	5.5	5.0	3.5	5.0	3.5	5.0	4.0	9.0	8.5
15	15.0	13.5	5.5	5.0	5.0	3.5	4.5	3.5	5.0	4.0	9.5	9.0
16	15.5	13.5	5.0	4.0	5.0	3.5	4.5	3.0	5.5	4.0	9.5	9.0
17	15.5	13.5	5.5	4.0	4.0	3.0	4.5	3.0	5.0	5.0	9.0	7.0
18	15.0	12.5	5.0	4.0	5.0	3.0	4.5	3.5	5.0	3.5	7.0	5.0
19	15.0	11.5	5.0	4.5	5.0	3.0	5.0	3.5	5.0	3.5	6.0	5.5
20	13.5	11.0	5.5	4.0	4.5	3.0	4.5	4.0	5.0	3.5	6.5	6.0
21	13.0	10.5	5.5	4.5	5.0	3.0	4.5	3.5	5.0	3.5	7.5	7.0
22	11.5	10.5	5.5	5.0	5.0	3.5	5.0	3.5	5.0	3.5	8.0	7.0
23	11.5	10.0	5.5	4.5	5.5	3.5	5.0	3.5	5.0	3.5	8.5	8.0
24	11.5	10.5	5.5	4.0	5.5	4.0	5.0	4.5	5.0	3.5	8.5	8.5
25	11.5	10.5	5.5	4.0	4.0	4.0	4.5	4.0	5.0	3.5	8.5	8.5
26	11.5	11.5	5.0	4.0	4.0	4.0	5.5	4.0	5.0	3.5	9.0	9.0
27	11.5	10.5	5.0	4.0	4.5	3.0	6.0	4.5	5.0	3.5	9.0	8.0
28	11.0	11.0	6.0	4.0	4.5	3.0	5.5	5.0	5.0	3.5	9.5	9.0
29	11.0	9.0	5.5	4.0	4.5	3.0	5.5	4.0	---	---	9.5	9.0
30	10.0	9.5	6.0	4.0	4.5	3.0	5.0	3.5	---	---	10.0	9.0
31	10.0	9.0	---	---	3.0	3.0	5.5	3.5	---	---	10.0	10.0
MONTH	20.5	9.0	10.0	4.0	6.0	3.0	6.0	3.0	6.0	3.5	10.0	4.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	10.0	17.0	15.5	17.0	17.0	23.0	23.0	25.0	25.0	31.0	28.5
2	10.5	10.0	17.0	16.5	18.5	17.0	25.5	23.0	26.0	25.5	30.5	29.0
3	10.5	10.0	15.5	15.5	18.5	18.5	25.5	24.0	26.5	25.0	29.5	29.0
4	10.0	9.5	15.0	15.0	20.0	18.5	25.0	24.0	26.5	25.5	31.0	30.0
5	10.0	9.5	15.0	14.0	20.0	19.5	25.0	24.0	25.5	25.5	30.5	27.0
6	10.5	10.0	16.5	14.0	20.0	20.0	26.0	24.0	28.0	26.0	30.5	29.0
7	11.0	10.5	16.5	15.0	20.5	19.5	26.5	24.5	29.0	27.0	29.0	27.0
8	11.0	10.5	18.0	15.5	20.5	19.0	27.0	25.0	29.5	27.0	28.0	22.5
9	11.0	10.5	18.0	15.5	20.5	19.5	28.0	26.0	29.5	29.5	28.0	22.0
10	10.5	10.0	18.0	16.5	---	---	28.0	26.0	29.5	28.5	27.0	21.5
11	10.0	9.0	18.0	17.0	---	---	27.0	26.0	29.5	27.5	26.5	22.5
12	10.5	9.5	18.0	16.5	---	---	28.0	26.0	29.0	27.5	26.5	19.5
13	11.5	10.0	16.5	15.5	---	---	26.0	25.5	29.0	27.5	25.5	20.0
14	12.0	11.0	16.0	15.0	---	---	26.0	25.5	29.0	27.0	25.5	20.0
15	12.5	12.0	16.0	14.5	---	---	25.5	25.0	29.0	27.0	23.0	19.0
16	13.5	12.5	16.5	15.0	26.5	25.0	25.5	25.0	28.5	27.0	23.0	22.5
17	13.5	12.5	16.0	14.5	26.0	24.5	25.5	25.0	28.5	27.0	22.5	21.0
18	14.0	12.5	16.5	14.5	26.0	24.5	25.5	25.0	28.5	26.5	22.0	18.0
19	15.0	13.5	16.0	15.0	26.5	25.0	26.5	25.0	26.5	26.5	22.0	20.0
20	15.5	15.0	16.0	15.0	26.5	25.0	26.5	25.5	28.0	26.5	22.0	19.5
21	16.0	15.5	18.0	15.5	26.5	25.0	26.5	25.0	28.0	26.0	22.0	20.0
22	16.0	15.5	18.0	16.5	26.5	25.0	25.0	24.0	27.0	26.0	21.0	19.0
23	16.5	16.0	18.0	16.5	25.5	24.5	26.0	24.0	26.5	25.5	21.0	19.0
24	16.5	16.0	18.0	16.0	24.5	24.0	24.5	23.5	27.0	25.0	21.5	19.0
25	16.5	16.0	18.0	17.0	25.5	23.5	26.5	24.5	27.0	25.0	22.0	19.5
26	16.5	16.0	18.0	17.0	26.0	25.0	26.5	25.0	28.0	25.5	22.5	20.0
27	16.5	16.5	17.0	16.5	25.0	24.5	26.5	25.0	29.5	28.0	22.5	20.5
28	16.5	15.0	16.5	16.0	25.0	24.5	26.5	24.0	30.5	28.5	22.5	21.0
29	15.0	14.5	17.0	16.5	24.5	23.5	24.5	24.0	30.5	30.0	21.0	19.5
30	16.0	15.0	17.0	16.5	23.0	23.0	26.0	24.0	31.0	30.0	19.5	19.0
31	---	---	17.0	16.0	---	---	25.5	25.0	31.0	29.5	---	---
MONTH	16.5	9.0	18.0	14.0	26.5	17.0	28.0	23.0	31.0	25.0	31.0	18.0
YEAR	31.0	3.0										

04106400 WEST FORK PORTAGE CREEK AT KALAMAZOO, MICH.

LOCATION.--Lat 42°14'40", long 85°36'50", in NW¼ sec.5, T.3 S., R.11 W., Kalamazoo County, analog temperature recorder next to gaging station on right bank, 50 ft (15 m) upstream from culvert on Oakland Drive, 2.5 mi (4.0 km) upstream from mouth, and 3.7 mi (6.0 km) southwest of main business district of Kalamazoo.

DRAINAGE AREA.--18.7 mi² (48.4 km²).

PERIOD OF RECORD.--Chemical analyses: November 1971 to September 1973 (discontinued).
Water temperatures: April 1971 to April 1972 (discontinued).

EXTREMES.--1971-72:
Water temperatures: Maximum, not recorded; minimum, freezing point on many days during January and February.
Period of record:
Water temperatures (1971-72): Maximum, 34.0°C June 28, 1971; minimum, freezing point on many days during January and February, 1972.

REMARKS.--Miscellaneous chemical analyses available Feb. 1965 to March 1967. No temperature records due to clock stoppage Oct. 27 to Nov. 5, Nov. 5-16, Dec. 17 to Jan. 19, March 18 to April 5, 1972; ranges in temperatures 8.0 to 17.0°C, 4.0 to 10.0°C, 0.0 to 15.0°C, 1.5 to 11.5°C, respectively.

CHEMICAL ANALYSES WATER YEARS OCTOBER 1971 TO SEPTEMBER 1972

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	NITRATE (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)
NOV. 05...	1425	7.1	232	0	190	16	8.0	.11	.01	242
FEB. 16...	1520	8.0	236	0	194	19	12	.61	--	239
APR. 14...	0830	9.5	219	0	180	21	8.0	.18	--	200
MAY 12...	1250	12	--	--	--	--	--	--	--	--
JUNE 09...	1515	4.1	--	--	--	--	--	--	--	--
JULY 14...	1345	8.5	--	--	--	--	--	--	--	--
AUG. 16...	1425	7.5	202	0	166	E10	10	E.0	--	--
SEP. 15...	1515	14	--	--	--	--	--	--	--	--

DATE	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)
NOV. 05...	5.23	200	10	400	8.4	10.0	--	--	16.0
FEB. 16...	5.16	210	18	412	7.9	.0	5	2	4.0
APR. 14...	5.35	200	28	370	7.8	8.5	5	1	--
MAY 12...	--	--	--	340	--	21.5	--	--	--
JUNE 09...	--	--	--	390	--	15.0	--	--	--
JULY 14...	--	--	--	300	--	20.0	--	--	--
AUG. 16...	--	112	0	335	8.3	23.0	80	3	--
SEP. 15...	--	--	--	360	--	21.0	--	--	--

DATE	FLOATING OR SOLID ICE COVER (SEVERITY)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COBALT (CO) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
NOV. 05...	--	--	--	--	--	--	--	--	--
FEB. 16...	6	--	--	--	--	--	--	--	--
APR. 14...	--	--	--	--	--	--	--	--	--
MAY 12...	--	--	--	--	--	--	--	--	--
JUNE 09...	--	--	--	--	--	--	--	--	--
JULY 14...	--	--	--	--	--	--	--	--	--
AUG. 16...	--	--	1	0	0	0	0	0	10
SEP. 15...	--	5	--	--	--	--	--	--	--

04106400 WEST FORK PORTAGE CREEK AT KALAMAZOO, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	NITRATE (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)
OCT.										
16...	1235	7.5	--	--	--	--	--	--	--	--
NOV.										
15...	1250	10	--	--	--	--	--	--	--	--
DEC.										
08...	1335	11	232	0	190	E10	11	E.37	--	--
FEB.										
16...	1340	9.8	--	--	--	--	--	--	--	--
MAR.										
21...	1315	13	218	0	179	E12	11	E.37	--	--
APR.										
17...	1330	12	222	0	182	E10	14	E.06	--	--
MAY										
10...	1335	9.8	192	0	157	E11	11	E.00	--	--
JUNE										
18...	1340	9.8	192	0	157	E14	12	E.23	--	--
JULY										
02...	1400	13	184	0	151	E11	11	E.18	--	--
18...	1405	12	--	--	--	--	--	--	--	--
AUG.										
07...	1320	12	198	0	162	13	8.0	.01	.01	220
SEP.										
04...	1610	8.9	--	--	--	--	--	--	--	--
24...	1355	12	--	--	--	--	--	--	--	--

DATE	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)
OCT.									
16...	--	--	--	340	--	14.0	--	--	--
NOV.									
15...	--	--	--	380	--	3.0	--	--	1.0
DEC.									
08...	--	204	14	400	8.0	1.0	20	1	--
FEB.									
16...	--	--	--	390	--	1.0	--	--	--
MAR.									
21...	--	204	25	400	8.0	8.5	--	2	12.5
APR.									
17...	--	216	34	420	8.4	13.0	5	2	14.0
MAY									
10...	--	178	21	360	7.9	14.5	15	3	24.5
JUNE									
18...	--	176	19	330	6.0	23.0	10	5	33.0
JULY									
02...	--	166	15	320	8.0	25.0	0	2	32.0
18...	--	--	--	340	7.5	25.0	--	--	32.0
AUG.									
07...	7.13	180	18	355	7.4	26.0	--	3	32.0
SEP.									
04...	--	--	--	375	8.0	29.0	--	--	31.0
24...	--	--	--	380	7.9	19.5	--	--	26.0

04106400 WEST FORK PORTAGE CREEK AT KALAMAZOO, MICH.--Continued

WATER TEMPERATURES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	25.0	21.5	---	---	3.0	2.0	---	---	0.0	0.0	2.0	1.5
2	24.5	22.0	---	---	3.0	2.0	---	---	0.0	0.0	1.5	0.5
3	25.0	22.0	---	---	3.5	2.0	---	---	0.0	0.0	3.0	0.5
4	22.0	19.0	---	---	3.0	2.0	---	---	0.0	0.0	1.5	0.5
5	20.5	17.5	---	---	3.0	3.0	---	---	0.0	0.0	0.5	0.5
6	18.0	15.5	---	---	3.5	2.5	---	---	0.0	0.0	0.5	0.5
7	15.5	14.0	---	---	4.0	3.5	---	---	0.0	0.0	2.0	0.5
8	14.0	13.0	---	---	4.0	4.0	---	---	0.0	0.0	2.0	0.5
9	15.5	13.0	---	---	4.5	4.0	---	---	0.0	0.0	1.0	0.5
10	15.0	13.0	---	---	8.0	4.5	---	---	0.0	0.0	2.0	0.5
11	14.5	12.5	---	---	7.5	5.0	---	---	0.0	0.0	4.5	0.5
12	14.0	12.0	---	---	5.0	3.5	---	---	0.0	0.0	6.5	2.5
13	13.5	13.0	---	---	4.0	3.0	---	---	0.0	0.0	4.0	1.5
14	14.5	13.0	---	---	3.0	3.0	---	---	0.0	0.0	2.0	1.0
15	16.0	13.0	---	---	5.5	3.0	---	---	0.0	0.0	3.0	1.0
16	17.0	14.0	---	---	5.5	3.0	---	---	0.0	0.0	2.5	2.0
17	16.0	15.0	11.0	9.0	---	---	---	---	0.0	0.0	3.0	2.0
18	15.5	15.0	11.5	10.0	---	---	---	---	0.0	0.0	---	---
19	18.0	15.0	11.5	7.5	---	---	0.0	0.0	0.0	0.0	---	---
20	18.0	15.0	7.0	6.5	---	---	0.0	0.0	0.0	0.0	---	---
21	17.5	16.5	6.0	4.0	---	---	0.0	0.0	0.0	0.0	---	---
22	17.0	17.0	4.0	3.0	---	---	0.0	0.0	1.0	0.0	---	---
23	17.0	16.0	3.0	3.0	---	---	0.0	0.0	0.5	0.0	---	---
24	16.0	15.5	4.0	3.0	---	---	0.0	0.0	1.0	0.5	---	---
25	15.5	15.0	4.0	3.0	---	---	0.0	0.0	0.5	0.5	---	---
26	17.0	15.0	4.0	3.5	---	---	0.0	0.0	2.0	0.5	---	---
27	---	---	4.0	3.5	---	---	0.0	0.0	1.0	0.5	---	---
28	---	---	4.0	3.5	---	---	0.0	0.0	3.0	0.5	---	---
29	---	---	4.0	2.5	---	---	0.0	0.0	2.5	1.0	---	---
30	---	---	2.5	2.0	---	---	0.0	0.0	---	---	---	---
31	---	---	---	---	---	---	0.0	0.0	---	---	---	---
MONTH	25.0	12.0	---	---	---	---	---	---	3.0	0.0	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	14.0	8.5	---	---	---	---	---	---	---	---	---	---
7	8.5	2.0	---	---	---	---	---	---	---	---	---	---
8	8.5	1.5	---	---	---	---	---	---	---	---	---	---
9	11.0	4.0	---	---	---	---	---	---	---	---	---	---
10	11.0	6.5	---	---	---	---	---	---	---	---	---	---
11	12.5	7.5	---	---	---	---	---	---	---	---	---	---
12	14.0	8.5	---	---	---	---	---	---	---	---	---	---
13	12.0	9.5	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
YEAR	25.0	0.0										

04106500 PORTAGE CREEK AT KALAMAZOO, MICH.

LOCATION.--Lat 42°16'27", long 85°34'35", in SW¼ SE¼ sec.22, T.2 S., R.11 W., Kalamazoo County, digital monitor at right bank 15 ft (4.6 m) upstream from bridge on Reed Ave. in Kalamazoo, 1.5 mi (2.4 km) above mouth.

DRAINAGE AREA.--49.8 mi^2 (125 km^2).

PERIOD OF RECORD.--Chemical analyses: April 1972 to September 1973.
Water temperatures: April 1972 to September 1973.

EXTREMES.--April to September 1972:
Specific conductance: Maximum, 654 micromhos July 1; minimum, 260 micromhos Aug. 24.
Water temperatures: Maximum, 29.5°C July 21; minimum, 8.5°C April 17.
1972-73:
Specific conductance: Maximum, 812 micromhos Feb. 20; minimum, 311 micromhos Sept. 29.
Water temperatures: Maximum, 27.0°C July 8, 9; minimum, 1.5°C Jan. 1, 2.
Period of record:
Specific conductance (1972-73): Maximum 812 micromhos Feb. 20, 1973; minimum, 260 micromhos Aug. 24, 1972.
Water temperatures (1972-73): Maximum 29.5°C July 21, 1972; minimum 1.5°C Jan. 1, 2, 1973.

REMARKS.--Miscellaneous chemical analyses available 1968, 1971. Digital monitor installed April 13, 1972. Period of missing record due to malfunctions of the instrument.

CHEMICAL ANALYSES, APRIL TO SEPTEMBER 1972

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	NITRATE (N) (MG/L)
APR.									
03...	1315	E35	252	0	207	41	26	--	.47
13...	1700	--	244	0	200	55	33	--	.50
MAY									
12...	1000	--	390	0	195	E28	29	--	E.45
JUNE									
09...	1045	E29	--	--	--	--	--	--	--
21...	0930	E42	--	--	--	--	--	--	--
JULY									
14...	1100	E36	--	--	--	--	--	--	--
28...	1030	E34	--	--	--	--	--	--	--
AUG.									
16...	1030	E38	246	0	202	56	28	.2	.18
SEP.									
01...	0945	--	--	--	--	--	--	--	--
15...	1100	E44	--	--	--	--	--	--	--

DATE	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)
APR.									
03...	.05	292	250	44	550	7.5	9.0	5	4
13...	--	320	280	80	550	7.4	15.5	5	2
MAY									
12...	--	--	544	349	540	7.2	18.5	30	8
JUNE									
09...	--	--	--	--	560	--	22.5	--	--
21...	--	--	--	--	580	--	22.0	--	--
JULY									
14...	--	--	--	--	500	--	25.0	--	--
28...	--	--	--	--	540	--	22.0	--	--
AUG.									
16...	.08	336	270	68	500	7.8	23.0	--	10
SEP.									
01...	--	--	--	--	--	--	23.5	--	--
15...	--	--	--	--	540	--	19.5	--	--

DATE	AIR TEMPERATURE (DEG C)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COBALT (CO) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
APR.									
03...	13.5	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
MAY									
12...	21.0	--	--	--	--	--	--	--	--
JUNE									
09...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
JULY									
14...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
AUG.									
16...	24.0	--	0	0	0	1	3	0	10
SEP.									
01...	--	--	--	--	--	--	--	--	--
15...	--	6	--	--	--	--	--	--	--

04106500 PORTAGE CREEK AT KALAMAZOO, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR SEPTEMBER 1972 TO OCTOBER 1973

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)
OCT.											
16...	1000	E45	--	--	--	--	--	--	--	--	--
30...	1055	E39	--	--	--	--	--	--	--	--	--
NOV.											
15...	0955	E46	--	--	--	--	--	--	--	--	--
DEC.											
08...	1100	E39	244	0	200	59	34	.1	.79	.03	336
JAN.											
15...	0950	E46	--	--	--	--	--	--	--	--	--
FEB.											
16...	1000	E47	248	0	203	E40	60	--	E1.7	--	--
MAR.											
21...	1010	--	242	0	198	52	30	--	.68	.10	344
APR.											
17...	1020	E54	240	0	197	E70	33	--	E.99	--	--
MAY											
18...	1015	--	266	0	218	E72	33	--	E.79	--	--
JUNE											
18...	1100	E35	264	0	216	E36	30	--	E1.1	--	--
JULY											
02...	1100	E47	250	0	205	E50	29	--		--	--
18...	1030	E44	--	--	--	--	--	--	--	--	--
AUG.											
07...	1035	E42	244	0	200	51	24	--	.11	.05	340
SEP.											
04...	1040	E39	--	--	--	--	--	--	--	--	--
24...	1005	E42	--	--	--	--	--	--	--	--	--

DATE	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	AIR TEMPER-ATURE (DEG C)
OCT.										
16...	--	--	520	--	11.5	--	--	--	--	12.0
30...	--	--	510	7.5	9.0	--	--	8.4	74	9.0
NOV.										
15...	--	--	540	--	5.0	--	--	--	--	9.5
DEC.										
08...	260	60	550	7.5	4.0	--	10	--	--	-.5
JAN.										
15...	--	--	620	--	4.5	--	--	--	--	-1.0
FEB.										
16...	266	63	690	7.3	3.5	--	7	--	--	--
MAR.										
21...	270	71	560	8.0	9.0	--	15	--	--	--
APR.										
17...	264	67	560	8.0	13.0	0	8	--	--	11.5
MAY										
18...	282	64	600	7.6	16.0	5	22	--	--	14.0
JUNE										
18...	270	54	500	7.0	21.0	5	19	--	--	24.0
JULY										
02...	266	61	520	8.1	23.0	0	12	--	--	27.5
18...	--	--	550	7.5	23.0	--	--	--	--	26.5
AUG.										
07...	260	60	536	7.4	24.0	--	5	--	--	26.5
SEP.										
04...	--	--	540	7.9	24.5	--	--	--	--	29.0
24...	--	--	530	7.5	17.0	--	--	--	--	13.0

04106500 PORTAGE CREEK AT KALAMAZOO, MICH.--Continued

SPECIFIC CONDUTANCE (MICROMHOS/CM AT 25°C), APRIL TO SEPTEMBER 1972

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	526	501	564	486	654	584	563	554	586	570
2	---	---	547	528	558	528	578	519	568	537	585	580
3	---	---	558	547	552	520	532	508	567	558	577	544
4	---	---	567	550	573	537	549	529	582	560	543	534
5	---	---	556	546	564	546	537	504	578	568	554	538
6	---	---	549	492	601	549	569	516	567	529	571	554
7	---	---	495	451	618	571	555	531	545	504	576	485
8	---	---	494	453	632	578	538	489	547	496	502	486
9	---	---	519	489	584	560	519	502	541	532	572	505
10	---	---	540	516	594	566	532	508	554	542	574	568
11	---	---	552	534	561	534	556	532	557	520	569	475
12	---	---	555	535	538	459	576	555	544	533	481	466
13	559	543	556	486	543	470	576	537	550	538	480	370
14	548	515	483	445	559	412	541	474	554	546	520	413
15	525	387	489	394	474	330	520	468	562	554	556	523
16	500	297	504	489	531	439	559	520	567	500	564	543
17	456	321	525	497	559	532	558	552	578	536	540	519
18	500	458	540	519	566	552	532	367	566	439	519	310
19	512	474	556	537	561	550	526	438	556	274	---	---
20	506	484	559	541	578	558	561	528	523	499	---	---
21	520	500	558	547	584	559	575	555	548	522	---	---
22	522	494	559	543	567	558	598	561	575	548	---	---
23	519	500	564	541	566	540	569	523	570	444	---	---
24	517	516	571	552	564	547	544	517	416	260	---	---
25	537	523	569	555	562	543	571	546	505	399	---	---
26	532	523	585	555	544	535	575	495	538	505	---	---
27	552	531	594	569	569	547	566	525	552	537	---	---
28	553	540	564	532	576	559	553	528	558	549	---	---
29	580	549	532	446	571	531	563	548	566	547	---	---
30	562	511	519	492	613	532	572	556	576	564	---	---
31	---	---	543	516	---	---	571	557	586	568	---	---
MONTH	---	---	594	394	632	330	654	367	586	260	---	---
YEAR	654	260										

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) . WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	554	528	527	520	480	446	577	550	666	622
2	---	---	535	516	615	524	518	481	574	546	627	597
3	563	536	554	525	646	619	533	497	568	545	597	584
4	571	536	561	542	633	545	505	463	552	547	583	565
5	572	547	562	558	556	531	523	508	570	554	568	559
6	568	547	592	566	646	566	539	524	569	560	579	561
7	553	518	570	556	580	572	568	541	572	570	578	571
8	551	538	557	511	604	551	584	569	656	575	576	567
9	551	532	555	517	659	558	586	576	690	621	579	567
10	547	534	568	547	652	590	590	581	620	599	568	563
11	544	504	559	547	598	547	619	588	599	578	558	521
12	546	525	548	540	767	537	639	609	579	571	812	520
13	550	543	542	525	788	726	624	604	594	561	---	---
14	555	543	531	509	718	601	605	591	759	596	---	---
15	550	528	561	527	597	561	654	530	797	737	---	---
16	539	520	561	552	562	550	784	640	756	628	---	---
17	565	544	565	556	553	541	714	617	628	600	---	---
18	572	564	562	556	618	545	626	547	604	593	---	---
19	565	553	559	542	691	568	560	514	611	593	---	---
20	567	558	579	539	764	696	530	501	812	606	---	---
21	571	544	614	579	761	665	538	498	760	743	559	553
22	542	395	611	558	662	600	570	499	731	627	560	554
23	465	386	553	549	600	572	545	514	754	612	575	559
24	533	469	545	538	572	546	540	519	741	649	579	556
25	537	529	544	527	552	544	548	537	641	582	556	547
26	555	540	524	508	601	544	554	539	628	576	555	545
27	573	549	512	501	607	596	559	537	657	627	582	557
28	567	533	518	508	603	589	560	527	651	627	584	562
29	538	506	519	513	643	584	555	535	---	---	577	476
30	537	508	526	517	654	412	552	540	---	---	522	492
31	550	539	---	---	445	410	559	547	---	---	547	461
MONTH	573	386	614	501	788	410	784	446	812	545	---	---

04106500 PORTAGE CREEK AT KALAMAZOO, MICH.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1972 TO *SEPTEMBER 1973*

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	526	489	514	507	521	491	538	515	477	448	571	560
2	526	509	529	514	547	519	529	517	514	481	570	564
3	552	524	551	529	521	418	453	396	537	513	564	540
4	565	551	553	541	497	411	498	457	696	526	553	534
5	571	562	569	545	515	487	519	498	708	531	571	555
6	583	570	551	547	514	495	528	518	554	530	573	566
7	586	573	545	535	522	502	549	536	540	522	580	562
8	573	561	542	531	535	516	536	532	552	393	582	569
9	561	529	571	532	535	520	.535	476	538	420	571	542
10	546	530	568	559	535	517	525	513	500	426	546	539
11	565	547	578	560	548	529	525	516	543	504	575	546
12	569	565	578	566	587	545	535	522	547	528	582	574
13	576	562	603	562	613	550	537	341	534	522	581	572
14	573	568	587	565	570	550	498	390	553	528	588	540
15	570	564	583	563	556	536	492	465	575	556	594	592
16	567	552	601	575	544	533	512	493	568	560	591	566
17	569	553	600	575	527	518	548	514	561	555	568	463
18	589	563	608	573	517	500	550	543	557	545	496	461
19	574	548	589	530	534	516	549	542	550	546	549	501
20	584	563	557	548	531	455	556	538	484	361	566	549
21	589	536	578	546	535	515	552	540	507	440	566	532
22	535	397	596	483	543	532	547	532	535	510	561	449
23	518	427	535	436	548	466	543	531	545	527	517	443
24	550	520	541	461	512	468	547	530	539	522	531	514
25	569	544	551	394	518	480	550	541	541	521	563	533
26	580	560	510	429	541	518	557	542	531	527	571	556
27	590	572	530	453	549	485	558	443	541	524	564	450
28	605	590	477	433	484	435	530	468	567	543	527	419
29	595	578	530	463	509	466	508	462	578	564	488	311
30	577	514	523	441	525	507	531	509	568	553	488	323
31	---	---	491	443	---	---	526	325	564	554	---	---
MONTH	605	397	608	394	613	411	558	325	708	361	594	311
YEAR	812	311										

TEMPERATURE (°C) OF WATER, APRIL TO SEPTEMBER 1972

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	18.5	16.0	17.0	14.0	24.0	22.0	25.0	24.0	24.5	23.0
2	---	---	18.5	17.0	21.5	17.0	22.0	19.5	24.0	23.0	23.5	19.5
3	---	---	17.0	14.5	24.0	20.5	21.5	18.0	23.0	22.0	19.5	17.5
4	---	---	17.5	14.0	25.0	23.0	19.5	17.5	22.5	20.0	18.5	16.5
5	---	---	19.5	16.0	24.5	23.0	20.5	17.0	23.0	20.5	19.5	17.0
6	---	---	20.5	18.0	24.0	22.5	19.5	17.5	21.0	19.5	21.5	19.0
7	---	---	19.0	14.0	24.0	21.5	20.5	19.5	19.5	18.5	21.0	20.0
8	---	---	14.0	12.0	24.0	22.0	22.0	18.5	18.5	18.0	21.0	19.0
9	---	---	15.0	11.5	23.0	21.5	23.0	21.0	20.0	17.0	21.0	19.0
10	---	---	18.0	15.0	21.0	17.5	25.0	22.0	22.0	18.5	21.0	19.0
11	---	---	19.5	17.0	18.5	16.0	27.0	24.0	21.0	20.0	20.5	19.0
12	---	---	21.0	18.0	18.0	16.5	27.0	25.0	22.5	20.0	20.0	18.5
13	15.5	13.5	20.0	16.0	23.0	18.0	26.5	24.5	25.0	21.5	21.0	19.5
14	14.0	12.0	17.0	15.5	25.5	23.0	26.5	24.0	26.5	24.0	21.5	20.0
15	14.0	12.0	17.0	16.0	24.0	22.0	25.5	24.5	26.0	23.5	20.5	19.0
16	13.5	9.5	18.5	16.5	23.0	20.5	26.0	24.0	23.5	22.0	20.5	20.0
17	15.0	8.5	21.0	17.5	22.5	19.0	26.5	24.0	26.0	23.0	21.5	18.5
18	18.0	14.5	23.0	20.0	23.5	21.0	25.0	24.0	27.0	24.5	20.5	19.0
19	18.5	17.0	24.0	22.0	25.0	22.5	26.5	24.5	27.0	24.0	---	---
20	17.0	14.0	24.0	22.5	26.0	24.0	28.5	25.5	26.0	23.5	---	---
21	14.0	11.0	25.0	22.5	24.5	20.0	29.5	27.0	26.5	24.0	---	---
22	11.0	10.0	25.0	23.0	20.0	18.5	28.5	27.0	27.5	25.5	---	---
23	12.0	10.0	25.0	23.0	18.0	17.0	27.0	25.5	26.0	25.0	---	---
24	11.5	10.5	25.0	23.0	17.5	16.0	26.5	25.0	24.0	22.5	---	---
25	14.0	10.0	25.0	23.0	20.5	16.5	26.5	25.0	24.0	22.0	---	---
26	15.5	12.5	24.5	22.5	22.5	19.0	25.5	22.5	25.0	23.5	---	---
27	17.5	14.5	23.5	22.0	24.0	21.0	22.5	20.0	24.5	23.0	---	---
28	18.5	16.0	22.0	19.5	24.5	23.0	23.0	20.5	24.0	22.0	---	---
29	19.0	14.5	21.0	18.5	23.5	23.0	24.0	21.5	24.5	23.0	---	---
30	16.0	13.5	20.0	17.5	24.0	21.5	25.5	23.0	25.5	23.5	---	---
31	---	---	17.5	14.5	---	---	26.0	23.5	25.5	23.5	---	---
MONTH	---	---	25.0	11.5	26.0	14.0	29.5	17.0	27.5	17.0	---	---
YEAR	29.5	8.5										

04106500 PORTAGE CREEK AT KALAMAZOO, MICH.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	11.5	10.5	6.5	5.5	4.0	1.5	8.0	6.5	11.5	9.0
2	---	---	13.5	11.5	6.5	5.5	3.0	1.5	9.5	8.5	13.0	11.5
3	18.5	17.5	13.0	12.5	7.0	6.5	4.5	3.0	9.0	6.5	13.0	12.5
4	18.0	17.0	12.5	11.5	6.0	5.0	4.5	3.5	8.0	6.5	12.5	12.0
5	19.0	17.5	11.5	11.0	5.5	4.5	3.5	2.0	8.0	7.5	12.0	10.5
6	17.5	16.0	11.5	11.0	5.5	4.0	4.0	2.0	8.0	7.0	14.0	11.0
7	16.0	14.5	13.0	12.0	4.5	3.0	4.5	3.5	8.0	7.0	15.0	14.0
8	16.0	14.5	13.0	11.5	4.5	4.0	4.5	4.0	6.5	5.0	14.0	13.0
9	15.0	13.5	11.5	11.0	5.5	4.5	4.5	4.0	5.5	4.5	12.5	10.0
10	14.0	13.0	11.0	10.5	5.0	3.5	4.0	2.5	6.0	5.0	11.0	9.5
11	15.5	13.5	10.5	10.0	3.5	2.5	3.5	2.0	5.5	4.0	14.0	11.5
12	15.5	15.0	10.0	9.0	4.0	3.5	5.0	3.0	5.0	3.5	13.5	3.0
13	14.5	13.5	9.0	7.5	4.5	3.5	4.5	4.0	7.0	5.0	---	---
14	14.5	13.0	7.0	5.5	5.0	4.5	4.5	3.5	8.5	7.5	---	---
15	13.5	12.5	6.0	5.0	5.0	4.5	5.5	4.0	8.0	6.0	---	---
16	13.5	11.5	6.5	5.5	4.5	2.5	7.5	6.0	6.5	3.5	---	---
17	13.5	11.5	7.5	6.0	3.5	2.0	9.0	7.0	5.0	4.0	---	---
18	11.5	9.5	8.0	7.0	4.5	2.5	10.0	9.0	5.5	4.5	---	---
19	9.5	8.0	8.0	7.5	6.5	4.5	10.5	7.0	7.0	5.5	---	---
20	10.5	8.5	8.0	7.0	7.0	6.5	6.5	5.0	9.0	7.0	---	---
21	11.0	10.0	9.0	8.0	7.0	6.5	5.5	4.5	8.5	6.5	11.0	9.0
22	11.5	11.0	8.5	8.0	7.0	7.0	7.0	5.0	6.5	6.0	12.0	10.0
23	12.5	12.0	8.5	7.5	7.0	5.5	7.0	6.0	8.0	6.0	12.5	10.5
24	12.0	10.5	8.0	7.0	5.5	5.0	6.5	5.5	8.0	7.0	13.0	11.5
25	11.0	10.0	8.0	6.0	5.5	5.0	8.0	6.0	7.0	5.5	12.5	10.5
26	11.5	10.0	6.0	5.0	5.5	4.5	9.0	7.5	6.0	5.0	12.5	9.5
27	12.5	10.5	5.0	4.5	6.0	5.0	10.0	9.0	7.5	5.5	14.0	11.5
28	13.0	12.5	6.0	5.0	6.5	5.5	8.5	5.0	9.0	7.0	13.0	11.5
29	12.5	9.5	6.5	5.5	6.0	6.0	4.5	2.5	---	---	13.5	12.0
30	10.0	9.0	7.0	6.0	6.5	5.5	5.5	4.0	---	---	14.5	13.5
31	10.5	10.0	---	---	6.5	4.0	6.0	5.0	---	---	14.0	11.5
MONTH	19.0	8.0	13.5	4.5	7.0	2.0	10.5	1.5	9.5	3.5	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	11.5	17.5	15.5	21.5	18.5	23.5	20.5	23.5	21.5	26.5	24.5
2	13.5	12.5	17.5	16.0	22.5	20.5	23.0	22.5	23.5	22.0	27.0	25.0
3	12.5	10.5	16.0	11.5	22.0	20.5	24.0	23.0	23.5	21.5	26.0	24.5
4	11.0	10.5	13.0	10.0	23.0	20.5	24.0	22.5	24.0	22.0	25.5	24.0
5	13.0	10.0	15.0	12.5	22.5	20.5	24.0	22.0	25.0	22.5	25.5	24.5
6	15.0	13.0	16.0	14.5	22.5	21.0	25.0	22.5	25.5	24.0	24.5	23.0
7	16.0	14.5	15.5	15.0	21.5	20.0	26.0	24.0	25.5	24.0	23.0	21.5
8	14.0	12.0	16.5	15.0	23.5	20.5	27.0	25.0	26.5	24.0	21.5	20.0
9	12.0	7.5	18.5	16.0	24.5	22.5	27.0	26.0	26.0	25.0	20.0	18.5
10	8.5	7.5	18.5	17.5	25.5	23.5	26.5	24.5	25.5	24.0	20.0	18.5
11	11.0	7.5	18.0	16.5	26.5	24.5	25.5	23.5	25.0	24.0	21.0	19.5
12	13.0	10.5	17.5	16.0	26.5	23.5	23.5	22.0	24.0	22.5	20.0	19.0
13	13.0	10.5	16.0	14.0	24.5	22.0	25.5	22.5	24.0	22.5	20.0	18.5
14	14.5	11.5	15.5	12.5	24.5	22.5	25.0	23.5	23.5	23.0	20.5	19.0
15	15.5	13.5	17.0	14.0	24.0	23.0	23.0	21.0	24.0	22.5	20.5	19.5
16	15.0	14.0	17.0	15.0	23.5	22.0	24.0	21.0	24.0	23.0	19.5	17.5
17	15.5	13.0	16.5	13.5	22.0	21.0	24.5	22.0	24.0	22.5	17.5	14.5
18	17.5	15.5	17.0	13.0	23.5	21.0	25.0	23.0	24.0	22.5	15.5	13.5
19	18.5	17.0	16.0	15.5	24.5	23.0	25.5	23.5	23.5	23.0	16.0	15.0
20	20.0	18.0	17.5	14.5	24.5	23.5	25.0	24.0	23.0	21.5	17.5	15.5
21	20.0	18.5	19.0	16.5	24.0	23.5	24.0	22.5	22.5	20.5	17.0	16.0
22	18.5	17.0	19.0	17.0	23.5	22.5	23.5	21.5	22.0	20.5	18.0	16.5
23	18.0	15.0	17.5	16.0	23.0	20.5	24.5	22.5	21.0	19.5	18.5	17.5
24	18.0	16.0	20.5	15.5	21.5	19.0	24.5	23.5	20.5	19.0	18.5	17.0
25	18.5	16.0	20.5	16.5	24.0	20.5	25.5	23.5	22.5	20.0	20.0	18.0
26	17.5	16.0	19.0	16.0	24.5	23.0	25.5	24.5	24.5	22.0	22.5	20.0
27	17.0	14.0	18.5	16.5	24.5	23.0	25.0	24.0	26.5	24.0	22.0	21.5
28	14.5	12.0	18.0	15.5	23.5	21.0	24.5	21.0	27.0	26.0	21.5	20.0
29	14.0	13.0	17.5	16.0	21.0	19.5	22.5	19.5	27.0	26.0	20.0	17.5
30	15.5	13.0	17.5	15.0	21.5	19.0	24.0	21.5	26.0	25.0	17.5	16.5
31	---	---	19.0	14.0	---	---	24.0	22.5	25.5	24.0	---	---
MONTH	20.0	7.5	20.5	10.0	26.5	18.5	27.0	19.5	27.0	19.0	27.0	13.5
YEAR	27.0	1.5										

04106770 KALAMAZOO RIVER NEAR COOPER CENTER, MICH.

LOCATION.--Lat 42°22'30", long 85°34'45", in NE¼ sec.22, T.1 S., R.11 W., Kalamazoo County, analog recorders at downstream end of left abutment of "D" Ave. bridge 5 mi(8 km) north of Kalamazoo.

DRAINAGE AREA.--1,248 mi² (3,232 km²).

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1973.
 Water temperatures: August 1968 to September 1973.

EXTREMES.--1971-72:
 Water temperatures: Maximum, 33.0°C one or more days during July 14-22; minimum, not recorded.
 1972-73:
 Specific conductance: Maximum, 750 micromhos Dec. 13, Feb. 23, 24; minimum, 400 micromhos Mar. 11, 13.
 Water temperatures: Maximum 31.0°C Aug. 29; minimum, 1.0°C one or more days during Jan. 15 to Feb. 16.
 Period of record:
 Specific conductance (1968-73): Maximum recorded, 830 micromhos Jan. 28, 1971, minimum recorded, 400 micromhos Mar. 11, 13, 1973.
 Water temperatures (1968-73): Maximum, 33.0°C one or more days during July 14-22, 1972; minimum recorded 1.0°C Jan. 28, 29, several days in Feb., 1969, one or more days during Jan. 15 to Feb. 16, 1973.

REMARKS.--Period of missing conductance records due to malfunctions of the instrument. No temperature records available October 25, 1971, to April 7, 1972. No temperature records due to clock stoppage April 14-21, May 15-25, June 14 to Aug. 7, Aug. 7-28, 1972; ranges in temperature 10.5 to 15.5, 16.5 to 27.0, 17.0 to 28.0, 24.0 to 33.0°C, respectively. Clock stopped Oct. 19-20, Oct. 31 to Nov. 30, Nov. 31 to Dec. 18, Dec. 19, 1972, to Jan. 15, 1973, Jan. 16 to Feb. 16,Feb. 16 to Mar. 21; ranges in temperature 10.0 to 11.0, 5.0 to 11.0, 2.0 to 6.5, 1.5 to 3.5, 1.0 to 6.5, 2.0 to 11.0, 23.0 to 29.5°C respectively.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	NITRATE (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
NOV.										
05...	1225	E560	280	0	230	70	36	--	1.5	.34
FEB.										
16...	1600	E620	288	0	236	69	60	--	.43	--
APR.										
03...	1530	E1300	--	--	--	--	--	--	--	--
14...	1600	E1200	251	0	206	67	32	--	.70	--
21...	1300	E2500	--	--	--	--	--	--	--	--
MAY										
12...	1130	E1400	--	--	--	--	--	--	--	--
JUNE										
09...	1340	E760	--	--	--	--	--	--	--	--
JULY										
14...	1255	E660	--	--	--	--	--	--	--	--
AUG.										
16...	1250	E500	240	0	197	72	46	.6	1.9	.29
SEP.										
15...	1350	E1300	--	--	--	--	--	--	--	--

DATE	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-CORALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)
NOV.									
05...	418	300	70	675	7.6	14.0	--	--	15.0
FEB.									
16...	444	320	84	700	7.3	4.0	10	20	--
APR.									
03...	--	--	--	590	--	7.0	--	--	--
14...	348	280	74	603	7.2	13.5	15	8	--
21...	--	--	--	480	--	12.5	--	--	--
MAY									
12...	--	--	--	570	--	17.5	--	--	--
JUNE									
09...	--	--	--	600	--	26.0	--	--	--
JULY									
14...	--	--	--	625	--	29.0	--	--	--
AUG.									
16...	392	280	83	640	7.9	25.5	--	15	--
SEP.									
15...	--	--	--	610	--	21.5	--	--	--

04106770 KALAMAZOO RIVER NEAR COOPER CENTER, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	NITRATE (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
OCT.										
16...	1135	E690	--	--	--	--	--	--	--	--
30...	1200	E1200	--	--	--	--	--	--	--	--
NOV.										
15...	1115	E1500	--	--	--	--	--	--	--	--
DEC.										
08...	1230	E930	270	0	220	61	37	.2	1.5	.08
18...	1100	E1100	--	--	--	--	--	--	--	--
JAN.										
15...	1243	E1500	--	--	--	--	--	--	--	--
FEB.										
16...	1115	E1200	--	--	--	--	--	--	--	--
MAR.										
21...	1145	E2200	230	0	189	51	29	--	.86	.13
APR.										
17...	1215	E1600	--	--	--	--	--	--	--	--
MAY										
18...	1205	E1100	286	0	235	E24	34	--	E.93	--
JUNE										
18...	1210	E1300	284	0	233	E41	33	--	E1.7	--
JULY										
02...	1300	E1700	274	0	225	E37	31	--	E1.0	--
18...	1225	E1100	--	--	--	--	--	--	--	--
AUG.										
07...	1205	E1300	274	0	225	51	32	--	.50	.19
SEP.										
04...	1255	E820	--	--	--	--	--	--	--	--
24...	1300	E780	--	--	--	--	--	--	--	--

DATE	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)
OCT.									
16...	--	--	--	595	--	12.0	--	--	--
30...	--	--	--	575	--	10.0	--	--	--
NOV.									
15...	--	--	--	580	--	4.0	--	--	9.5
DEC.									
08...	400	300	72	639	7.6	3.0	--	3	-7.0
18...	--	--	--	--	--	--	--	--	--
JAN.									
15...	--	--	--	595	--	2.0	--	--	.0
FEB.									
16...	--	--	--	625	--	2.0	--	--	-1.0
MAR.									
21...	322	250	62	526	7.4	7.0	--	10	--
APR.									
17...	--	--	--	580	8.2	12.0	--	--	15.0
MAY									
18...	--	300	65	620	7.7	14.0	15	18	18.0
JUNE									
18...	--	304	71	610	7.1	24.0	20	28	27.5
JULY									
02...	--	278	53	580	8.1	24.0	10	36	30.0
18...	--	--	--	590	7.5	25.0	--	--	23.5
AUG.									
07...	368	290	65	625	7.8	26.0	--	9	29.5
SEP.									
04...	--	--	--	620	7.8	27.0	--	--	30.0
24...	--	--	--	620	7.8	18.0	--	--	21.0

04106770 KALAMAZOO RIVER NEAR COOPER CENTER, MICH.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	647	631	---	---	---	---	590	580	700	660	660	640
2	666	636	---	---	---	---	590	580	750	670	640	620
3	649	592	---	---	---	---	610	580	770	640	620	600
4	636	563	---	---	---	---	610	580	740	660	600	600
5	674	625	---	---	---	---	620	610	680	650	590	590
6	690	634	---	---	---	---	630	610	650	650	590	580
7	680	637	---	---	---	---	700	630	---	---	590	570
8	681	640	---	---	---	---	700	670	---	---	570	550
9	671	649	---	---	660	630	680	650	---	---	580	570
10	657	618	---	---	650	480	670	640	---	---	630	590
11	670	602	---	---	600	580	670	650	---	---	630	620
12	675	641	---	---	600	580	770	660	---	---	630	620
13	---	---	---	---	580	550	740	680	---	---	620	520
14	---	---	---	---	600	570	690	680	---	---	530	520
15	---	---	---	---	610	550	680	680	---	---	530	520
16	---	---	---	---	610	600	690	680	---	---	550	520
17	---	---	---	---	610	600	720	690	730	660	550	540
18	---	---	---	---	610	600	930	710	690	660	500	470
19	697	663	---	---	610	590	930	720	690	640	470	440
20	702	672	---	---	620	600	840	700	640	610	460	450
21	693	667	---	---	620	610	770	700	650	610	470	470
22	687	592	---	---	620	620	770	710	680	610	480	470
23	647	621	---	---	640	620	720	710	670	650	500	480
24	627	561	---	---	640	620	730	670	710	640	500	490
25	---	---	---	---	620	610	720	650	710	640	500	490
26	---	---	---	---	610	600	660	650	720	660	520	500
27	---	---	---	---	650	600	660	650	700	650	530	510
28	---	---	---	---	630	620	670	660	680	650	570	530
29	---	---	---	---	640	630	660	640	670	650	590	570
30	---	---	---	---	630	520	650	630	---	---	600	580
31	---	---	---	---	590	580	680	630	---	---	590	570
MONTH	---	---	---	---	---	---	930	580	---	---	660	450

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	600	590	840	540	---	---	---	---	670	660	650	610
2	600	590	590	570	---	---	---	---	685	660	650	640
3	590	580	590	570	---	---	---	---	670	670	650	600
4	---	---	590	590	---	---	---	---	670	670	630	590
5	---	---	600	580	---	---	---	---	685	670	620	610
6	---	---	600	560	---	---	---	---	670	650	620	610
7	---	---	570	540	---	---	---	---	---	---	610	600
8	---	---	570	560	---	---	---	---	---	---	610	590
9	---	---	570	570	620	600	---	---	---	---	610	570
10	---	---	580	570	610	590	---	---	---	---	600	590
11	---	---	580	570	610	580	---	---	---	---	600	570
12	---	---	---	---	600	590	---	---	---	---	600	570
13	---	---	---	---	610	580	---	---	---	---	600	590
14	---	---	---	---	600	590	---	---	---	---	580	570
15	580	560	---	---	570	400	760	630	---	---	650	560
16	570	450	---	---	---	---	630	610	650	640	650	630
17	560	520	---	---	---	---	610	600	660	620	640	630
18	540	530	---	---	---	---	610	580	650	620	620	560
19	520	490	---	---	---	---	630	590	650	590	610	600
20	490	470	---	---	---	---	660	620	625	620	610	600
21	480	460	---	---	---	---	670	650	620	600	630	550
22	480	460	---	---	---	---	680	670	620	610	650	620
23	760	460	---	---	---	---	670	650	620	590	650	630
24	860	470	---	---	---	---	660	640	610	530	630	630
25	610	480	---	---	---	---	670	600	620	600	630	600
26	510	500	---	---	---	---	680	630	620	620	620	600
27	850	510	---	---	---	---	630	600	620	610	620	610
28	780	530	---	---	---	---	650	620	610	600	620	600
29	800	540	---	---	---	---	650	650	620	600	610	560
30	560	540	---	---	---	---	650	625	620	610	590	540
31	---	---	---	---	---	---	625	625	620	620	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	650	550
YEAR	930	400										

STREAMS TRIBUTARY TO LAKE MICHIGAN

04106770 KALAMAZOO RIVER NEAR COOPER CENTER, MICH.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	600	540	590	580	610	600	530	520	590	580	680	640
2	630	540	600	550	660	600	540	530	590	520	640	620
3	620	620	610	600	660	610	530	490	580	570	640	630
4	630	620	610	600	620	610	---	---	580	570	630	600
5	640	620	610	590	600	620	---	---	580	570	600	490
6	650	630	610	540	670	640	---	---	590	570	490	450
7	650	650	610	590	640	620	---	---	590	580	460	430
8	650	650	620	590	650	630	---	---	640	580	450	430
9	640	630	620	580	660	640	---	---	640	590	460	450
10	650	630	620	610	650	620	---	---	620	600	450	420
11	650	630	610	600	620	610	---	---	620	620	420	400
12	660	630	610	600	720	590	---	---	640	610	410	410
13	660	650	600	590	750	640	---	---	640	620	410	400
14	660	640	590	580	650	610	---	---	680	620	420	410
15	630	610	600	580	650	620	670	590	670	630	430	420
16	620	580	630	580	640	600	670	620	660	620	460	430
17	630	610	630	620	600	600	660	610	670	630	470	460
18	630	630	640	610	610	570	640	610	680	670	490	470
19	650	630	620	600	650	600	620	590	690	650	490	490
20	650	640	640	600	650	590	590	570	740	660	520	500
21	660	630	630	610	590	570	570	530	700	620	---	---
22	630	520	630	610	600	590	540	510	670	650	---	---
23	680	620	630	600	610	600	550	520	750	670	---	---
24	590	540	600	590	600	580	560	540	750	680	---	---
25	590	560	600	580	580	570	560	530	680	630	---	---
26	590	580	590	580	600	570	550	540	680	640	---	---
27	600	590	580	570	600	590	560	540	690	660	---	---
28	590	560	610	580	600	580	560	540	690	660	---	---
29	580	560	630	600	600	590	570	550	---	---	---	---
30	580	570	600	600	600	510	590	570	---	---	---	---
31	580	570	---	---	520	500	590	580	---	---	---	---
MONTH	680	520	640	550	750	500	---	---	750	520	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	480	470	620	610	560	530	---	---
2	---	---	---	---	480	480	610	580	550	530	---	---
3	---	---	---	---	480	470	550	550	570	510	640	620
4	---	---	---	---	490	470	550	520	650	530	690	620
5	---	---	---	---	510	490	540	530	640	620	660	650
6	---	---	---	---	530	510	550	540	620	620	650	640
7	---	---	---	---	540	530	560	550	640	620	640	620
8	---	---	---	---	540	540	580	560	650	610	620	620
9	---	---	---	---	540	540	690	570	610	600	620	610
10	---	---	---	---	540	540	620	600	650	610	610	610
11	---	---	---	---	540	550	640	620	620	610	610	610
12	---	---	---	---	580	550	650	640	620	600	610	610
13	---	---	---	---	590	590	650	650	610	600	610	610
14	---	---	---	---	590	590	650	480	610	590	620	610
15	---	---	---	---	600	590	660	650	610	600	620	620
16	---	---	---	---	600	610	650	580	620	610	620	620
17	---	---	---	---	610	610	580	580	640	620	620	540
18	---	---	---	---	620	610	610	580	650	630	580	560
19	---	---	620	600	630	610	620	610	640	550	590	580
20	---	---	600	600	620	590	630	620	620	580	610	590
21	---	---	600	590	620	610	600	570	650	620	620	610
22	---	---	590	570	620	610	570	520	650	630	620	620
23	---	---	570	490	630	620	520	500	640	630	620	520
24	---	---	540	520	630	590	580	470	650	640	630	610
25	---	---	500	500	610	610	620	570	640	630	640	640
26	---	---	490	480	620	610	570	550	630	610	660	650
27	---	---	480	430	650	620	570	560	630	610	660	650
28	---	---	440	420	640	500	570	500	---	---	670	570
29	---	---	430	420	640	620	580	550	---	---	630	460
30	---	---	430	410	640	620	560	560	---	---	560	540
31	---	---	480	430	---	---	560	520	---	---	---	---
MONTH	---	---	---	---	650	470	690	470	650	510	690	460
YEAR	750	400										

04106770 KALAMAZOO RIVER NEAR COOPER CENTER, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	26.5	24.0	---	---	---	---	---	---	---	---	---	---
2	26.0	23.5	---	---	---	---	---	---	---	---	---	---
3	1.0	23.0	---	---	---	---	---	---	---	---	---	---
4	24.5	23.0	---	---	---	---	---	---	---	---	---	---
5	24.5	22.5	---	---	---	---	---	---	---	---	---	---
6	23.5	20.5	---	---	---	---	---	---	---	---	---	---
7	21.0	19.5	---	---	---	---	---	---	---	---	---	---
8	19.5	18.0	---	---	---	---	---	---	---	---	---	---
9	19.0	17.0	---	---	---	---	---	---	---	---	---	---
10	17.5	16.0	---	---	---	---	---	---	---	---	---	---
11	17.5	15.5	---	---	---	---	---	---	---	---	---	---
12	18.5	16.0	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	22.0	19.5	---	---	---	---	---	---	---	---	---	---
20	22.5	20.0	---	---	---	---	---	---	---	---	---	---
21	22.5	21.5	---	---	---	---	---	---	---	---	---	---
22	22.5	21.5	---	---	---	---	---	---	---	---	---	---
23	22.0	20.0	---	---	---	---	---	---	---	---	---	---
24	20.0	18.5	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	18.0	14.0	20.0	19.5	---	---	29.0	27.0	27.5	26.0
2	---	---	24.5	16.5	21.5	20.0	---	---	27.5	26.0	27.0	22.0
3	---	---	22.0	15.5	23.5	21.0	---	---	27.0	25.0	23.5	21.5
4	---	---	17.0	15.5	23.5	22.0	---	---	27.0	25.0	22.0	20.0
5	---	---	18.5	16.0	25.0	21.0	---	---	25.5	24.0	21.0	19.5
6	---	---	20.5	18.5	26.0	24.5	---	---	23.5	22.5	24.0	21.0
7	---	---	20.5	16.5	25.5	24.0	24.5	22.5	22.5	21.0	23.0	21.5
8	13.5	13.0	16.5	14.5	25.5	24.0	27.0	22.5	22.0	20.5	23.5	22.0
9	13.5	13.0	15.5	14.0	26.0	23.5	26.0	23.0	23.5	20.5	23.0	20.5
10	13.5	13.5	17.0	14.5	23.5	21.5	27.0	22.0	20.5	19.5	21.0	20.0
11	13.5	13.5	18.0	15.0	22.0	19.5	29.0	26.0	21.0	20.0	20.5	20.0
12	14.0	13.5	20.0	17.5	21.0	18.5	30.0	26.5	23.5	20.5	21.5	20.5
13	14.0	13.5	20.0	17.0	24.0	21.0	18.5	17.5	26.0	21.5	22.5	21.5
14	---	---	---	---	---	---	29.5	27.5	27.5	23.0	23.0	22.0
15	---	---	---	---	---	---	---	---	25.5	23.5	22.0	21.0
16	---	---	---	---	---	---	---	---	25.5	23.5	22.0	21.5
17	---	---	---	---	---	---	---	---	28.0	24.5	23.0	21.0
18	---	---	---	---	---	---	---	---	29.0	26.0	23.5	21.0
19	---	---	---	---	---	---	---	---	29.0	26.5	23.5	22.0
20	---	---	---	---	---	---	---	---	30.0	26.5	22.5	22.0
21	12.5	12.0	---	---	---	---	---	---	28.0	25.5	22.5	20.5
22	12.0	10.5	---	---	---	---	---	---	30.5	28.0	21.0	20.0
23	10.5	9.5	---	---	---	---	---	---	29.5	27.5	20.0	18.0
24	9.5	9.0	---	---	---	---	---	---	29.0	26.5	19.0	18.0
25	11.5	9.0	27.0	25.5	---	---	---	---	27.5	26.0	20.0	18.0
26	11.5	9.0	27.5	25.5	---	---	---	---	28.5	27.5	21.0	20.0
27	14.5	12.0	27.0	25.0	---	---	---	---	27.5	24.0	21.0	20.0
28	16.0	14.0	25.0	22.5	---	---	28.0	27.0	26.0	23.5	20.5	19.0
29	16.0	14.0	24.5	22.0	---	---	28.5	26.0	26.0	24.5	20.5	19.0
30	15.5	14.0	23.5	21.5	---	---	29.5	26.5	27.5	26.0	19.0	17.0
31	---	---	22.0	19.0	---	---	29.5	26.5	27.0	26.0	---	---
MONTH	---	---	---	---	---	---	---	---	30.5	19.5	27.5	17.0
YEAR	30.5	5.0										

04106770 KALAMAZOO RIVER NEAR COOPER CENTER, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.0	15.0	---	---	---	---	---	---	---	---	---	---
2	17.5	15.5	---	---	---	---	---	---	---	---	---	---
3	18.0	17.5	---	---	---	---	---	---	---	---	---	---
4	18.0	17.0	---	---	---	---	---	---	---	---	---	---
5	18.0	17.0	---	---	---	---	---	---	---	---	---	---
6	18.0	17.5	---	---	---	---	---	---	---	---	---	---
7	18.0	16.5	---	---	---	---	---	---	---	---	---	---
8	17.5	14.0	---	---	---	---	---	---	---	---	---	---
9	16.0	14.0	---	---	---	---	---	---	---	---	---	---
10	16.5	14.5	---	---	---	---	---	---	---	---	---	---
11	16.0	14.0	---	---	---	---	---	---	---	---	---	---
12	15.5	13.5	---	---	---	---	---	---	---	---	---	---
13	13.0	12.0	---	---	---	---	---	---	---	---	---	---
14	13.0	12.0	---	---	---	---	---	---	---	---	---	---
15	13.5	12.0	---	---	---	---	---	---	---	---	---	---
16	14.0	12.0	---	---	---	---	---	---	---	---	---	---
17	14.0	12.0	---	---	---	---	---	---	---	---	---	---
18	12.5	10.0	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	18.5	17.0	24.0	22.0	25.5	24.0	30.0	28.5
2	---	---	---	---	20.0	18.0	26.0	22.5	24.5	23.5	29.0	27.5
3	---	---	---	---	20.5	20.0	26.0	25.0	25.0	23.0	28.0	26.5
4	---	---	---	---	22.5	20.5	---	---	25.0	23.5	28.0	26.0
5	---	---	---	---	23.5	22.5	---	---	26.0	23.5	29.5	28.0
6	---	---	---	---	24.0	22.5	---	---	27.0	24.0	29.0	27.0
7	---	---	---	---	23.5	22.0	---	---	27.5	26.0	29.0	28.0
8	---	---	---	---	24.0	22.5	---	---	28.5	27.5	27.0	24.5
9	---	---	---	---	25.0	23.5	---	---	29.0	28.5	26.5	23.5
10	---	---	---	---	26.0	24.0	---	---	29.0	28.0	24.0	21.5
11	---	---	---	---	28.5	25.0	---	---	29.0	27.5	25.5	23.5
12	---	---	---	---	29.0	27.5	---	---	27.5	27.0	24.0	22.5
13	---	---	---	---	28.5	26.5	---	---	27.5	24.5	23.0	22.0
14	---	---	---	---	28.0	26.0	---	---	27.5	26.5	24.5	22.0
15	---	---	---	---	28.0	27.0	---	---	27.5	27.0	23.5	21.5
16	---	---	---	---	27.0	26.0	---	---	27.0	26.0	21.5	20.5
17	---	---	---	---	26.0	24.5	---	---	27.0	26.0	20.5	17.5
18	---	---	---	---	25.0	24.0	26.0	24.5	27.0	25.0	18.5	17.5
19	---	---	---	---	26.5	25.0	27.0	24.5	25.5	24.0	19.0	18.0
20	---	---	---	---	27.0	25.5	27.0	25.5	25.0	23.5	20.5	19.0
21	---	---	---	---	26.5	25.0	26.0	24.5	25.0	24.5	20.5	19.0
22	---	---	---	---	26.5	25.5	24.5	23.5	24.5	22.5	20.5	19.0
23	---	---	---	---	26.5	24.0	26.0	23.5	24.5	22.5	20.0	19.0
24	---	---	---	---	24.5	23.0	26.0	25.0	23.0	21.5	20.5	17.5
25	---	---	---	---	25.5	22.0	28.0	25.0	23.0	23.0	22.5	20.5
26	---	---	---	---	27.0	25.0	28.0	27.0	25.0	23.0	24.5	22.5
27	---	---	---	---	27.0	25.0	28.0	27.0	29.0	25.0	25.5	24.0
28	---	---	---	---	25.5	24.0	28.0	24.0	29.5	27.5	25.5	23.0
29	---	---	---	---	24.5	23.0	26.5	23.0	31.0	29.0	23.5	20.5
30	---	---	---	---	23.5	22.0	26.0	22.5	30.5	29.0	20.5	19.0
31	---	---	---	---	---	---	26.0	24.5	30.5	28.5	---	---
MONTH	---	---	---	---	29.0	17.0	---	---	31.0	21.5	30.0	17.5
YEAR	31.0	10.0										

04111000 GRAND RIVER NEAR EATON RAPIDS, MICH.

LOCATION.--Lat 42°32'05", long 84°37'25", in NW¼ sec.16, T.2 N., R.3 W., Eaton County, temperature recorder at gaging station on right bank 400 ft (122 m) upstream from bridge on Petrieville Highway, 2 mi (3 km) northeast of Eaton Rapids, 2.5 mi (4.0 km) downstream from Spring Brook, 25 mi (40 km) upstream from Red Cedar River, and at mile 178 (km 286).

DRAINAGE AREA.--661 mi² (1,712 km²).

PERIOD OF RECORD.--Water temperatures: October 1963 to September 1973.

EXTREMES.--1971-72:

Water temperatures: Maximum, 25.0°C Aug. 26-28; minimum, freezing point on many days during January.

1972-73:

Water temperatures: Maximum, 27.5°C Sept. 1-4; minimum, freezing point on many days in January, Feb. 14-17.

Period of record:

Water temperatures (1963-73): Maximum, 35.0°C Aug. 2, 1964; minimum, freezing point on many days during winter periods.

REMARKS.--Records considered poor Apr. 14-Aug. 1, 1972; temperature sensor buried by sediments. Recorder stopped July 9-28, 1972; recorded range in temperature, 21.5°C to 25.0°C.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	16.5	12.5	11.5	3.0	2.5	1.0	1.0	0.5	0.5	1.5	1.0
2	18.0	18.0	11.5	11.5	2.5	2.5	1.0	1.0	0.5	0.5	1.5	1.5
3	18.0	18.0	11.5	9.5	2.5	2.5	1.0	0.5	0.5	0.5	1.5	1.5
4	18.0	17.5	9.5	9.0	2.5	2.5	0.5	0.5	0.5	0.5	1.5	1.5
5	17.5	17.5	9.0	8.5	2.5	2.5	0.5	0.5	0.5	0.5	1.5	1.5
6	17.5	16.5	8.5	8.5	2.5	2.0	0.5	0.5	0.5	0.5	1.5	1.5
7	16.5	13.5	8.5	8.0	2.0	2.0	0.5	0.0	0.5	0.5	1.5	1.5
8	13.5	13.5	8.0	7.5	2.0	2.0	0.0	0.0	0.5	0.5	1.5	1.0
9	13.5	13.5	7.5	6.0	2.0	2.0	0.0	0.0	1.0	0.5	1.5	1.5
10	13.5	13.0	6.0	5.5	2.5	2.0	0.0	0.0	1.0	1.0	2.0	1.5
11	13.0	11.5	5.5	5.5	2.5	2.0	0.0	0.0	1.0	1.0	2.0	2.0
12	12.0	11.5	5.5	5.5	2.0	2.0	0.0	0.0	1.0	1.0	3.0	2.0
13	11.5	11.5	5.5	5.5	2.0	2.0	0.0	0.0	1.0	1.0	3.0	3.0
14	11.5	11.5	5.5	5.5	2.0	2.0	0.0	0.0	1.0	1.0	3.0	3.0
15	11.5	11.5	5.5	5.5	2.0	2.0	0.0	0.0	1.0	1.0	3.5	3.5
16	11.5	11.5	5.5	5.5	2.0	2.0	0.0	0.0	1.0	1.0	3.5	3.5
17	11.5	11.5	6.0	5.5	2.0	1.5	0.0	0.0	1.0	1.0	3.5	3.0
18	12.0	11.5	6.0	6.0	1.5	1.0	0.0	0.0	1.0	1.0	3.5	3.0
19	12.5	12.0	6.0	5.5	1.0	0.5	0.0	0.0	1.0	1.0	4.5	3.5
20	12.5	12.5	5.5	5.5	0.5	0.5	0.0	0.0	1.5	1.0	4.0	4.0
21	12.5	12.5	6.0	5.0	0.5	0.5	0.0	0.0	1.0	1.0	4.5	4.0
22	12.5	12.5	5.0	4.5	0.5	0.5	0.0	0.0	1.0	1.0	5.5	4.0
23	12.5	12.5	4.5	4.0	0.5	0.5	0.0	0.0	1.0	1.0	5.5	5.5
24	12.5	12.5	4.0	4.0	0.5	0.5	0.0	0.0	1.0	1.0	5.5	5.5
25	12.5	12.5	4.0	4.0	0.5	0.5	0.0	0.0	1.0	1.0	6.0	6.0
26	12.5	12.5	4.0	4.0	1.0	0.5	0.0	0.0	1.0	1.0	6.0	6.0
27	12.5	12.5	4.0	3.5	1.0	1.0	0.0	0.0	1.0	1.0	6.0	6.0
28	12.5	12.5	3.5	3.5	1.5	1.0	0.0	0.0	1.0	1.0	6.0	6.0
29	12.5	12.5	3.5	3.5	1.5	1.5	0.5	0.5	1.0	1.0	6.5	6.0
30	12.5	12.5	3.5	3.0	1.5	1.5	0.5	0.5	---	---	6.5	6.5
31	12.5	12.5	---	---	1.5	1.0	0.5	0.5	---	---	6.5	6.5
MONTH	18.0	11.5	12.5	3.0	3.0	0.5	1.0	0.0	1.5	0.5	6.5	1.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.0	6.5	16.0	15.0	22.0	21.5	22.0	21.0	22.5	22.5	24.5	24.0
2	7.0	7.0	17.0	16.0	21.5	21.5	22.0	22.0	23.0	22.5	24.0	23.5
3	7.0	7.0	17.0	17.0	21.5	21.0	22.0	22.0	23.0	23.0	23.5	22.0
4	7.5	7.0	17.0	17.0	21.5	21.0	22.0	22.0	23.0	21.5	23.0	22.0
5	8.0	7.5	17.0	17.0	22.0	21.5	22.0	22.0	23.0	21.5	22.0	21.0
6	8.5	8.0	18.0	17.0	22.0	22.0	22.0	22.0	23.0	22.5	22.0	21.0
7	9.0	8.5	18.0	18.0	22.5	22.0	22.0	22.0	22.5	22.0	22.0	21.5
8	9.0	9.0	18.0	18.0	23.0	22.5	22.0	21.5	22.0	21.5	21.5	21.5
9	9.0	9.0	18.5	18.5	23.0	23.0	---	---	21.0	19.5	21.5	20.0
10	9.5	9.0	18.5	18.0	23.0	23.0	---	---	21.0	19.5	21.0	20.0
11	10.0	9.5	18.0	18.0	23.0	23.0	---	---	21.0	20.5	21.0	21.0
12	11.0	10.0	18.0	18.0	23.0	23.0	---	---	21.5	20.5	21.0	20.5
13	12.0	11.0	18.0	18.0	23.0	23.0	---	---	22.5	21.0	20.5	20.5
14	12.5	12.0	18.0	18.0	23.0	22.5	---	---	22.5	22.5	21.0	20.5
15	12.5	12.5	18.5	18.0	22.5	22.5	---	---	22.5	22.5	21.0	20.0
16	13.0	12.5	18.5	18.5	22.5	22.5	---	---	23.0	22.0	21.5	20.5
17	13.0	13.0	19.0	18.5	22.5	22.5	---	---	23.0	23.0	22.0	21.5
18	14.5	13.5	19.5	19.0	22.5	22.5	---	---	23.5	23.0	22.0	21.5
19	14.5	14.5	21.0	19.5	23.0	22.5	---	---	24.0	23.5	21.5	21.5
20	14.5	14.5	22.0	21.0	23.5	23.0	---	---	24.0	24.0	21.5	21.0
21	14.5	14.5	22.5	22.0	23.0	23.0	---	---	24.0	24.0	21.0	20.0
22	14.5	14.5	23.0	22.5	23.0	22.0	---	---	24.5	24.0	19.5	17.5
23	14.5	14.5	23.5	23.0	22.0	20.5	---	---	24.5	24.0	18.5	17.5
24	14.5	14.5	23.5	23.5	20.5	20.0	---	---	24.5	24.5	17.5	17.0
25	14.5	14.0	23.5	23.5	20.0	20.0	---	---	24.5	24.5	17.0	17.0
26	14.5	14.0	23.5	23.5	20.5	20.0	---	---	25.0	24.5	18.0	17.5
27	14.5	14.5	23.5	23.0	21.0	20.5	---	---	25.0	25.0	18.0	18.0
28	14.5	14.5	23.0	23.0	21.0	21.0	---	---	25.0	24.5	18.0	18.0
29	15.0	15.0	23.0	23.0	21.0	21.0	23.0	22.0	24.5	24.5	18.0	18.0
30	15.0	15.0	23.0	23.0	21.0	20.5	22.5	22.5	24.5	24.5	18.0	18.0
31	---	---	23.0	22.0	---	---	22.5	22.5	24.5	24.5	---	---
MONTH	15.0	6.5	23.5	15.0	23.5	20.0	---	---	25.0	19.5	24.5	17.0
YEAR	25.0	0.0										

STREAMS TRIBUTARY TO LAKE MICHIGAN

04111000 GRAND RIVER NEAR EATON RAPIDS, MICH.-Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	15.0	9.5	9.5	3.5	3.5	0.5	0.0	0.5	0.5	1.5	1.0
2	15.0	14.5	9.5	9.0	3.5	3.5	0.0	0.0	0.5	0.5	2.0	1.5
3	15.5	15.0	9.0	9.0	3.5	3.0	0.0	0.0	1.0	0.5	3.0	2.0
4	16.0	16.0	9.0	9.0	3.0	3.0	0.0	0.0	2.0	1.0	3.0	3.0
5	16.0	16.0	9.0	9.0	3.0	3.0	0.0	0.0	2.0	2.0	3.0	2.5
6	16.0	16.0	9.0	9.0	3.0	2.5	0.0	0.0	2.0	2.0	3.5	2.5
7	16.0	15.0	9.0	9.0	2.5	2.5	0.0	0.0	2.0	1.5	6.0	3.5
8	15.5	15.0	9.0	8.5	2.5	2.5	0.0	0.0	1.5	1.0	6.5	6.0
9	15.0	14.0	8.5	8.5	2.5	2.5	0.0	0.0	1.0	0.5	6.5	6.5
10	14.5	14.0	8.5	8.5	2.5	2.5	0.0	0.0	0.5	0.5	7.0	6.5
11	14.0	13.5	8.5	8.0	2.5	2.5	0.0	0.0	0.5	0.5	7.5	7.0
12	13.5	13.0	8.0	8.0	2.5	2.5	0.0	0.0	0.5	0.5	8.0	7.5
13	13.5	12.5	8.0	7.0	2.5	2.5	0.0	0.0	0.5	0.5	8.0	8.0
14	13.0	12.5	7.0	6.0	2.5	2.0	0.0	0.0	0.5	0.0	8.0	8.0
15	13.0	12.0	6.0	5.5	2.0	2.0	0.0	0.0	0.0	0.0	8.5	8.0
16	12.5	12.0	5.5	4.5	2.0	2.0	0.0	0.0	0.0	0.0	8.5	8.5
17	12.5	11.5	4.5	4.0	2.0	2.0	0.0	0.0	0.5	0.0	8.5	4.5
18	11.5	10.5	4.0	4.0	2.0	1.5	0.0	0.0	1.0	0.5	4.5	3.5
19	10.5	9.5	4.0	4.0	1.5	1.0	0.0	0.0	1.0	0.5	5.0	3.5
20	9.5	9.0	4.0	4.0	1.0	1.0	0.0	0.0	0.5	0.5	5.5	4.5
21	9.0	9.0	4.0	4.0	1.0	1.0	0.0	0.0	0.5	0.5	5.5	5.0
22	9.0	9.0	4.0	4.0	1.0	1.0	0.0	0.0	0.5	0.5	6.5	5.5
23	9.0	9.0	4.0	4.0	1.0	1.0	0.0	0.0	0.5	0.5	7.0	6.5
24	9.5	9.0	4.0	4.0	1.0	1.0	0.0	0.0	0.5	0.5	7.5	7.0
25	9.5	9.5	4.0	4.0	1.0	1.0	0.0	0.0	0.5	0.5	8.0	8.0
26	9.5	9.5	4.0	4.0	1.0	1.0	0.5	0.0	0.5	0.5	8.0	7.5
27	9.5	9.5	4.0	3.5	1.0	1.0	1.5	0.5	0.5	0.5	8.5	8.0
28	9.5	9.5	3.5	3.5	1.0	1.0	1.5	1.5	1.0	0.5	8.5	8.5
29	9.5	9.5	3.5	3.5	1.0	1.0	1.5	0.5	---	---	8.5	8.5
30	9.5	9.5	3.5	3.5	1.0	1.0	0.5	0.5	---	---	9.0	8.5
31	9.5	9.5	---	---	1.0	1.0	0.5	0.5	---	---	9.0	9.0
MONTH	16.0	9.0	9.5	3.5	3.5	1.0	1.5	0.0	2.0	0.0	9.0	1.0

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	9.0	13.0	12.0	16.5	15.0	20.0	17.0	21.0	20.0	27.5	27.0
2	9.5	9.0	14.5	13.0	18.0	16.5	20.5	18.5	21.0	20.0	27.5	27.0
3	9.5	9.5	14.5	13.5	18.5	18.0	21.0	20.5	21.0	19.5	27.5	26.5
4	9.5	8.5	13.5	12.0	20.5	18.5	21.0	20.0	21.5	20.0	27.5	27.0
5	8.5	8.5	13.0	11.5	21.0	20.5	21.0	19.5	21.5	20.5	27.0	26.0
6	9.5	8.5	13.0	12.5	21.0	21.0	22.0	19.5	22.5	22.0	26.0	24.5
7	10.0	9.5	13.0	13.0	21.0	20.0	23.0	20.5	23.0	22.0	25.0	23.0
8	10.0	10.0	14.0	13.0	21.5	20.0	23.5	21.5	24.0	22.0	24.5	21.0
9	10.0	9.0	16.0	14.0	23.0	21.5	24.5	23.0	24.5	23.5	23.0	21.5
10	9.0	7.5	16.5	16.0	23.5	22.5	24.5	23.0	24.0	23.5	23.0	20.5
11	7.5	6.5	16.5	16.0	24.5	23.5	24.0	23.0	24.0	23.0	22.5	21.0
12	8.0	7.5	16.5	15.0	25.0	24.0	23.0	21.5	23.5	23.0	22.0	20.0
13	8.5	8.0	15.0	13.5	24.5	24.0	22.5	21.5	24.0	23.0	20.5	19.5
14	9.0	8.5	13.5	12.0	25.0	24.0	22.0	21.5	23.5	22.5	20.5	19.5
15	10.0	9.0	13.0	12.0	23.5	21.5	21.5	21.0	23.0	22.0	19.5	19.0
16	10.5	10.0	13.0	12.0	22.5	21.0	22.0	20.5	23.0	22.0	19.5	19.0
17	11.0	10.5	12.0	11.0	21.0	19.5	22.0	20.5	23.5	23.0	19.0	17.5
18	12.0	11.0	12.5	11.0	20.5	19.0	22.0	21.0	23.5	22.0	17.5	15.5
19	14.5	12.0	12.5	11.5	21.0	19.0	21.0	18.0	23.5	22.5	16.0	15.5
20	16.5	14.5	14.0	11.0	21.0	19.0	20.0	19.0	23.5	23.0	16.5	16.0
21	17.0	16.5	15.0	12.5	21.0	19.0	19.5	19.0	24.0	22.0	16.5	15.5
22	17.5	17.0	15.0	13.5	21.0	19.5	20.5	18.0	23.5	21.5	17.5	16.0
23	17.0	16.5	13.5	13.5	20.5	19.0	20.5	18.5	23.0	21.0	17.5	17.0
24	17.0	16.5	14.5	13.5	20.5	19.0	20.0	19.5	21.5	20.0	17.0	16.5
25	16.5	16.0	14.5	14.0	21.0	18.5	21.0	20.0	23.0	20.5	17.5	16.5
26	16.5	16.0	15.0	14.5	21.0	20.0	21.5	21.0	24.5	22.5	18.5	17.5
27	16.0	15.0	15.0	15.0	20.5	19.0	21.5	19.5	25.5	24.0	18.5	18.5
28	15.0	13.5	15.5	15.0	20.5	19.0	21.5	20.5	27.0	25.5	18.5	18.5
29	13.5	12.5	15.5	15.5	19.5	18.5	21.5	20.5	27.0	26.0	18.5	18.5
30	12.5	12.0	15.5	14.5	18.5	17.5	21.5	20.0	27.0	26.5	18.5	18.0
31	---	---	15.0	14.0	---	---	21.0	21.0	27.0	26.5	---	---
MONTH	17.5	6.5	16.5	11.0	25.0	15.0	24.5	17.0	27.0	19.5	27.5	15.5
YEAR	27.5	0.0										

04113000 GRAND RIVER AT LANSING, MICH.

LOCATION.--Lat 42°45'02", long 84°33'19", in NW¼ sec.9, T.4 N., R.2 W., Ingham County, temperature recorder at gaging station on right bank 30 ft (9 m) upstream from bridge on North Grand River Ave. in Lansing, 2.0 mi (3.2 km) downstream from Red Cedar River, and at mile 152 (km 245).

DRAINAGE AREA.--1,230 mi² (3,190 km²), approximately.

PERIOD OF RECORD.--Water temperatures: October 1963 to September 1964, October 1966 to September 1973.

EXTREMES.--1970-72:
Water temperatures: Maximum, 30.0°C July 22, 23; minimum, 3.5°C Jan. 1, 2, 17, 18.
1972-73:
Water temperatures: Maximum, not recorded; minimum 1.0°C Jan. 4-6.
Period of record:
Water temperatures (1966-73): Maximum, 32.0°C Aug. 19, 20, 1969; minimum, 1.0°C Jan. 4-6, 1973.

REMARKS.--Flow regulated by powerplants above station. No record Feb. 14-Sept. 31, 1973, due to malfunctions of the recorder.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	25.5	25.0	23.5	21.5	9.5	9.0	4.0	3.5	5.5	5.5	7.0	7.0
2	26.5	25.5	21.5	21.5	9.0	8.5	4.0	3.5	5.5	5.5	7.0	6.0
3	27.0	26.5	21.5	20.0	8.5	8.0	4.0	4.0	6.0	5.5	6.0	5.5
4	26.5	26.0	21.0	20.0	8.5	8.0	4.5	4.0	6.0	5.5	5.5	5.5
5	26.0	24.5	20.0	19.0	9.0	8.5	4.5	4.5	5.5	5.0	5.5	5.0
6	24.5	23.5	19.5	18.5	8.5	7.5	4.5	4.5	5.0	5.0	5.0	5.0
7	23.5	21.5	18.5	15.5	8.5	8.0	4.5	4.5	5.0	4.5	5.0	5.0
8	21.5	21.0	15.5	14.5	8.0	7.5	4.5	4.5	5.0	4.5	5.5	5.0
9	21.5	21.0	14.5	14.5	8.5	8.0	4.5	4.5	5.0	5.0	5.5	5.5
10	21.5	21.0	15.0	14.5	8.5	8.5	4.5	4.0	5.0	5.0	5.5	5.5
11	21.5	21.0	15.0	14.5	8.5	8.0	4.5	4.0	5.0	4.5	5.5	5.5
12	21.5	20.5	15.5	15.0	8.5	8.0	4.5	4.5	5.5	5.0	5.5	5.5
13	21.0	20.5	15.5	15.5	8.0	8.0	5.0	4.5	5.5	5.0	5.5	5.5
14	20.5	20.5	15.5	15.5	8.0	7.5	5.0	4.5	6.0	5.5	5.5	5.0
15	21.5	20.5	17.0	15.5	7.5	7.0	5.0	4.5	6.5	6.0	5.0	4.5
16	22.0	21.5	17.0	16.5	7.0	7.0	5.0	4.5	7.0	6.5	4.5	4.0
17	22.0	21.5	17.5	16.5	7.0	6.5	4.5	3.5	7.0	7.0	4.0	4.0
18	21.5	21.0	18.0	17.5	6.5	6.0	4.0	3.5	7.5	7.0	4.0	4.0
19	22.5	21.5	18.0	17.5	6.0	5.0	5.0	4.0	7.5	7.0	4.0	4.0
20	23.0	22.5	17.5	15.0	5.0	4.5	5.0	4.5	7.5	7.0	4.0	4.0
21	23.0	23.0	15.0	13.0	4.5	4.5	5.0	5.0	7.0	6.5	4.5	4.0
22	23.5	23.0	13.0	12.0	5.0	4.5	5.5	5.0	7.0	6.5	5.5	4.5
23	24.0	23.5	12.0	11.5	5.0	5.0	5.5	5.0	7.0	7.0	5.5	5.5
24	23.5	23.5	11.5	11.5	5.0	5.0	5.5	5.0	7.0	7.0	5.5	5.0
25	23.5	23.5	11.5	11.5	5.0	4.5	5.0	5.0	7.5	7.5	5.0	5.0
26	24.0	23.5	11.5	11.0	5.0	4.5	5.0	5.0	7.5	7.0	5.0	5.0
27	24.0	24.0	11.0	10.5	4.5	4.5	5.0	5.0	7.5	7.0	5.5	5.0
28	24.0	24.0	11.0	10.5	5.0	4.5	5.5	5.0	7.0	7.0	6.5	5.5
29	24.0	23.5	10.5	10.0	5.0	4.5	5.5	5.5	7.0	7.0	7.0	6.5
30	24.0	23.5	10.0	9.5	4.5	4.5	5.5	5.5	---	---	7.0	7.0
31	24.0	23.5	---	---	4.5	4.0	6.0	5.5	---	---	7.0	7.0
MONTH	27.0	20.5	23.5	9.5	9.5	4.0	6.0	3.5	7.5	4.5	7.0	4.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.5	7.0	14.5	14.0	25.5	24.5	25.5	25.0	26.5	26.0	25.0	24.5
2	7.5	7.5	15.5	14.5	24.5	24.5	26.0	25.5	27.0	26.5	25.0	24.0
3	7.5	7.5	16.0	15.5	24.5	24.5	26.0	26.0	27.0	27.0	24.0	22.5
4	7.5	7.0	16.0	16.0	25.0	24.5	26.0	25.0	27.0	25.5	22.5	22.0
5	8.0	7.5	16.5	16.0	25.5	25.0	25.0	24.0	25.5	25.0	22.0	20.5
6	8.5	8.0	16.5	16.5	26.5	25.5	24.0	23.5	25.0	24.5	21.5	21.0
7	9.0	8.5	17.5	16.5	27.0	26.5	23.5	23.5	24.5	24.0	21.5	21.0
8	9.0	8.5	17.5	17.0	27.5	26.5	23.5	23.0	24.0	23.0	22.0	21.0
9	8.5	8.0	17.0	16.5	27.5	27.5	24.0	23.5	23.5	23.0	22.5	22.0
10	8.5	8.0	17.0	17.0	27.5	25.5	25.0	25.0	23.0	22.5	22.5	21.5
11	9.5	8.5	17.5	17.0	25.5	23.5	26.0	26.0	23.0	22.5	21.5	21.0
12	11.5	9.5	18.5	17.5	23.5	22.0	26.5	26.5	23.5	23.0	21.5	21.0
13	12.0	11.0	19.0	18.5	24.0	23.0	26.5	26.5	24.5	23.5	21.5	21.5
14	12.0	12.0	19.0	19.0	26.0	24.0	27.0	26.5	25.0	24.0	22.0	21.5
15	12.0	12.0	19.0	19.0	26.5	26.0	27.5	27.0	25.0	25.0	22.0	21.5
16	12.0	12.0	19.5	19.0	26.5	26.0	27.5	27.5	25.0	24.0	21.5	21.5
17	12.0	12.0	20.0	19.5	26.0	25.5	27.5	26.5	25.0	24.0	21.5	21.5
18	11.5	11.5	20.5	20.0	25.5	24.5	26.5	26.0	25.5	24.5	21.5	21.5
19	12.0	11.0	22.0	20.5	25.0	24.0	27.0	26.5	26.0	25.5	22.0	21.5
20	12.0	11.5	23.5	22.5	26.0	25.0	27.5	27.0	26.0	25.5	22.0	22.0
21	12.0	12.0	24.0	23.5	26.0	24.5	28.5	27.5	26.0	25.5	22.0	21.5
22	12.0	12.0	25.0	24.0	24.5	23.0	30.0	28.5	27.0	25.5	21.5	21.0
23	11.5	11.0	26.0	25.0	23.0	22.0	30.0	29.5	27.5	26.5	21.0	20.0
24	11.0	11.0	27.0	26.5	22.0	21.5	29.5	29.0	26.5	26.5	20.0	19.5
25	11.5	11.0	27.5	27.0	22.0	21.5	29.0	28.0	26.5	26.5	19.5	19.5
26	11.5	11.0	28.0	27.5	23.0	22.0	28.0	26.0	26.5	26.0	20.0	19.5
27	12.0	11.5	28.0	27.5	23.5	23.0	26.0	26.0	26.0	25.5	20.0	20.0
28	13.0	12.0	27.5	26.5	24.0	23.5	26.0	25.5	25.5	25.0	20.0	20.0
29	13.5	13.0	26.5	26.0	25.0	24.0	25.5	25.5	25.0	25.0	20.0	20.0
30	14.0	13.5	26.5	26.0	25.0	25.0	25.5	25.5	25.0	25.0	20.0	19.0
31	---	---	26.0	25.5	---	---	26.0	25.5	25.0	24.5	---	---
MONTH	14.0	7.0	28.0	14.0	27.5	21.5	30.0	23.0	27.5	22.5	25.0	19.0
YEAR	30.0	3.5										

04113000 GRAND RIVER AT LANSING, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1973

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	18.0	10.5	10.5	5.0	5.0	2.0	2.0	3.5	3.0	---	---
2	18.0	17.5	10.5	10.5	5.0	5.0	2.0	1.5	3.0	3.0	---	---
3	18.0	17.5	10.5	10.5	5.0	5.0	1.5	1.0	3.5	3.0	---	---
4	18.5	18.0	10.5	10.5	5.0	4.5	1.0	1.0	3.5	3.5	---	---
5	19.0	18.0	10.5	10.0	4.5	4.0	1.0	1.0	3.5	3.5	---	---
6	19.0	19.0	10.0	10.0	4.0	4.0	1.0	1.0	3.5	3.5	---	---
7	19.0	19.0	10.0	10.0	4.0	4.0	1.5	1.0	3.5	3.5	---	---
8	19.0	18.5	10.0	10.0	4.0	4.0	1.5	1.5	4.0	3.5	---	---
9	18.5	17.0	10.0	10.0	4.0	4.0	1.5	1.5	4.0	3.5	---	---
10	17.0	17.0	10.0	9.5	4.0	3.5	2.0	1.5	3.5	3.5	---	---
11	17.0	16.5	9.5	9.5	3.5	3.5	2.0	2.0	3.5	3.5	---	---
12	16.5	16.5	9.5	9.0	3.5	3.5	2.0	2.0	3.5	3.0	---	---
13	16.5	15.0	9.0	8.5	3.5	3.5	2.0	2.0	3.5	3.0	---	---
14	15.0	15.0	8.5	8.0	3.5	3.5	2.0	2.0	---	---	---	---
15	15.0	14.5	8.0	7.5	3.5	3.0	2.0	2.0	---	---	---	---
16	14.5	14.0	7.5	6.5	3.0	3.0	2.0	2.0	---	---	---	---
17	14.5	14.0	6.5	6.5	3.0	3.0	2.5	2.0	---	---	---	---
18	14.0	13.5	6.5	6.0	3.0	3.0	2.5	2.5	---	---	---	---
19	13.5	13.0	6.0	6.0	3.0	3.0	2.5	2.5	---	---	---	---
20	13.0	13.0	6.0	6.0	3.0	3.0	2.5	2.5	---	---	---	---
21	13.0	12.5	6.0	6.0	3.0	3.0	2.5	2.0	---	---	---	---
22	13.0	12.5	6.0	6.0	3.0	3.0	2.5	2.5	---	---	---	---
23	13.0	13.0	6.0	6.0	3.0	2.5	2.5	2.5	---	---	---	---
24	13.0	13.0	6.0	5.5	2.5	2.5	2.5	2.5	---	---	---	---
25	13.0	12.0	5.5	5.5	2.5	2.5	2.5	2.5	---	---	---	---
26	11.5	11.0	5.5	5.5	2.5	2.5	3.0	2.5	---	---	---	---
27	11.5	11.0	5.5	5.5	2.5	2.5	3.5	3.0	---	---	---	---
28	11.0	11.0	5.5	5.5	2.5	2.5	3.5	3.5	---	---	---	---
29	11.0	11.0	5.5	5.5	2.5	2.5	3.5	3.5	---	---	---	---
30	11.0	11.0	5.5	5.0	2.5	2.0	3.5	3.5	---	---	---	---
31	11.0	10.5	---	---	2.0	2.0	3.5	3.5	---	---	---	---
MONTH	19.0	10.5	10.5	5.0	5.0	2.0	3.5	1.0	---	---	---	---

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
YEAR	19.0	1.0										

04121500 MUSKEGON RIVER AT EVART, MICH.

LOCATION.--Lat 43°53'57", long 85°15'19", in NW¼ NE¼ sec.3, T.17 N., R.8 W., Osceola County, temperature recorder at gaging station on right bank, 500 feet (152 m) downstream from bridge on U.S. Highway 10 at Evart, 0.4 mi (.6 km) upstream from Twin Creek, and at mi 123.9 (km 199.4).
DRAINAGE AREA.--1,450 mi² (3,760 km²), approximately.
PERIOD OF RECORD.--Water temperatures: November 1936 to September 1973.
EXTREMES.--1971-72:
Water temperatures: Maximum, 26.5° July 22; minimum, freezing point on many days during December to March.
1972-73:
Water temperatures: Maximum, 25.0°C Aug. 29; minimum, freezing point on many days during December to March.
Period of record:
Water temperatures (1936-73): Maximum 28.0°C July 1, 1963; minimum, freezing point on many days during winter period.
REMARKS.--Intermittent ice cover during the winter period.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	16.0	10.5	9.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
2	19.5	18.0	9.5	9.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
3	19.5	18.0	9.0	7.0	0.5	0.5	0.0	0.0	0.0	0.0	0.5	0.0
4	19.0	17.0	7.0	6.0	0.5	0.5	0.0	0.0	0.5	0.0	0.0	0.0
5	17.0	15.0	6.5	6.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
6	16.0	13.5	6.5	5.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
7	13.5	11.5	5.5	4.0	1.0	0.5	0.0	0.0	0.0	0.0	0.5	0.0
8	12.0	11.5	4.0	3.0	2.0	1.0	0.0	0.0	0.0	0.0	0.5	0.0
9	12.0	11.5	3.5	3.0	2.0	2.0	0.0	0.0	0.0	0.0	0.5	0.0
10	11.5	10.0	3.5	2.0	3.5	2.0	0.0	0.0	0.0	0.0	0.5	0.0
11	11.5	10.0	4.0	3.5	3.5	3.0	0.0	0.0	0.0	0.0	1.5	0.5
12	11.5	9.5	4.5	4.0	3.0	2.0	0.0	0.0	0.0	0.0	1.5	0.5
13	11.0	10.0	4.5	4.0	2.0	1.0	0.0	0.0	0.0	0.0	0.5	0.5
14	11.0	10.5	4.5	4.0	1.0	0.5	0.0	0.0	0.0	0.0	1.0	0.5
15	13.0	10.0	5.0	4.5	1.0	0.5	0.5	0.0	0.0	0.0	1.5	0.5
16	13.5	11.0	5.5	4.5	1.0	1.0	0.5	0.5	0.5	0.0	0.5	0.5
17	13.0	11.0	6.5	5.0	1.0	0.5	0.5	0.0	0.0	0.0	1.0	0.5
18	11.5	11.5	7.0	6.0	0.5	0.5	0.0	0.0	0.0	0.0	1.5	0.5
19	14.5	11.5	7.0	5.5	0.5	0.5	0.0	0.0	0.0	0.0	1.5	0.5
20	15.0	13.5	5.5	4.5	0.5	0.5	0.0	0.0	0.5	0.0	1.0	0.5
21	15.0	14.0	4.5	3.0	0.5	0.0	0.0	0.0	0.0	0.0	1.0	0.5
22	15.0	15.0	3.0	1.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.5
23	15.0	14.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
24	14.0	13.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.5
25	13.5	13.5	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.5
26	14.0	13.0	1.5	1.0	0.0	0.0	0.0	0.0	0.5	0.0	1.5	0.5
27	14.0	13.0	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.5
28	14.0	12.0	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
29	13.0	11.5	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.5
30	12.0	11.5	1.5	1.0	0.0	0.0	0.0	0.0	---	---	1.8	1.0
31	11.5	10.5	---	---	0.0	0.0	0.0	0.0	---	---	1.5	0.5
MONTH	19.5	9.5	10.5	0.5	3.5	0.0	0.5	0.0	0.5	0.0	1.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	2.0	1.5	13.0	12.0	16.0	13.5	22.0	20.0	21.5	19.5	21.0	19.5
2	3.0	2.0	12.0	12.0	18.0	15.0	22.0	20.0	21.0	19.0	19.5	17.0
3	3.0	2.0	12.0	11.0	20.0	17.0	21.5	18.5	19.5	18.5	17.0	15.5
4	3.5	2.0	11.5	10.0	21.0	18.5	20.5	18.5	20.0	16.5	17.0	15.5
5	4.0	2.0	13.0	11.0	20.5	18.5	19.5	17.0	20.0	16.5	16.5	15.0
6	3.5	3.0	13.0	12.0	21.5	19.5	20.0	16.0	19.5	18.0	18.5	16.5
7	3.0	1.5	12.0	11.0	21.5	18.5	19.5	18.0	18.0	16.0	18.0	17.0
8	3.0	1.0	12.0	11.0	21.5	19.0	19.5	17.0	16.0	15.0	19.5	17.0
9	4.0	2.0	12.0	11.0	21.5	20.0	19.0	17.0	16.5	14.0	18.5	15.5
10	5.0	4.0	13.0	11.0	20.0	17.0	22.0	18.5	18.0	14.5	17.0	15.0
11	5.0	4.5	14.5	12.0	19.0	16.0	24.0	20.0	17.0	15.5	15.5	14.5
12	4.5	3.5	15.5	14.0	17.0	16.0	24.5	21.5	19.5	15.5	16.5	15.0
13	4.0	3.0	15.5	15.0	17.0	15.5	24.0	22.0	21.0	18.0	18.0	16.5
14	3.0	2.0	15.0	15.0	19.5	16.5	24.0	21.5	22.0	20.0	18.5	16.5
15	4.0	3.0	15.0	15.0	21.5	19.0	24.0	21.5	21.5	19.0	18.0	15.0
16	4.5	4.0	15.5	14.5	21.0	18.5	23.5	20.5	20.5	18.0	18.0	15.5
17	5.0	4.5	17.0	15.0	20.0	16.0	22.0	20.0	21.0	18.0	20.0	18.0
18	7.0	5.0	19.0	16.5	20.5	16.5	22.0	21.0	22.0	20.0	19.5	18.0
19	8.0	7.0	20.0	18.5	21.5	18.0	22.0	20.5	24.0	20.5	19.0	17.0
20	8.0	7.0	20.5	19.0	21.5	20.0	24.0	21.0	23.5	21.0	19.0	17.0
21	8.0	7.0	21.5	20.0	20.0	17.0	25.5	23.0	24.0	21.0	19.0	16.5
22	7.0	6.0	21.5	20.0	18.0	16.0	26.5	24.0	24.0	22.0	16.5	14.0
23	6.5	6.0	21.5	20.0	16.5	14.5	26.0	24.0	23.0	21.5	15.5	13.5
24	6.0	5.5	21.5	20.0	14.5	10.5	25.0	22.0	21.5	20.5	15.0	14.0
25	6.5	5.5	21.5	20.0	18.5	14.5	24.0	21.0	21.0	19.5	16.0	15.0
26	8.0	6.0	21.5	20.0	19.0	17.0	21.5	18.5	21.0	19.5	16.5	16.0
27	9.0	8.0	21.5	19.5	21.0	18.0	20.5	17.0	19.5	19.0	16.0	14.0
28	11.0	9.0	21.5	19.5	21.0	18.5	21.0	17.0	19.5	18.0	14.5	13.0
29	12.0	11.0	21.0	19.5	21.0	19.5	21.5	18.0	20.0	18.5	14.0	13.0
30	13.0	12.0	20.5	16.5	23.0	19.0	21.5	18.5	20.5	18.5	13.5	11.5
31	---	---	16.5	14.5	---	---	21.0	19.0	21.0	19.5	---	---
MONTH	13.0	1.0	21.5	10.0	23.0	10.5	26.5	16.0	24.0	14.0	21.0	11.5
YEAR	26.5	0.0										

04121500 MUSKEGON RIVER AT EVART, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.5	10.5	5.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	11.5	10.0	6.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	13.0	11.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	14.0	12.0	6.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
5	14.0	13.0	5.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	13.0	11.5	5.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
7	11.5	10.5	5.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
8	11.0	10.0	6.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
9	10.0	9.0	6.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
10	9.0	8.0	5.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
11	9.0	8.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0
12	9.0	8.5	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	2.0
13	8.5	8.0	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5	3.0
14	8.5	8.0	4.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5	3.5
15	8.0	6.5	3.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	3.5
16	8.5	7.0	3.0	2.0	0.5	0.0	0.5	0.0	0.0	0.0	4.0	4.0
17	8.5	6.5	2.0	1.5	0.5	0.5	0.0	0.0	0.0	0.0	4.0	2.0
18	6.5	5.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	2.0	1.5
19	5.0	4.5	2.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0	1.5	1.0
20	4.5	4.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.5
21	4.5	4.5	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	3.0
22	5.5	4.5	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	3.0
23	6.0	5.5	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	4.5	4.0
24	6.0	5.5	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	5.0	4.5
25	5.5	5.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0
26	5.5	5.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	5.0
27	5.5	5.5	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	6.0
28	6.5	5.5	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	6.0
29	6.5	6.5	1.0	0.5	0.0	0.0	0.0	0.0	---	---	7.0	6.0
30	6.5	6.0	0.5	0.0	0.0	0.0	0.0	0.0	---	---	8.0	7.0
31	6.0	5.5	---	---	0.0	0.0	0.0	0.0	---	---	8.0	7.0
MONTH	14.0	4.0	6.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0	8.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.0	6.5	10.0	10.0	17.0	16.0	19.0	16.0	20.0	19.5	24.5	22.0
2	6.5	6.5	11.5	10.0	19.0	16.5	19.5	18.0	19.5	18.5	24.5	22.0
3	6.5	6.5	11.5	9.5	19.0	18.0	20.5	19.0	20.5	18.0	24.5	22.0
4	6.5	6.0	10.5	9.0	18.0	17.0	21.5	19.5	20.5	18.5	24.0	23.0
5	6.0	5.5	11.5	9.5	18.5	18.0	21.5	20.0	22.0	19.0	23.5	21.5
6	6.5	6.0	11.5	10.5	19.0	18.5	21.5	19.5	22.0	20.5	23.0	20.0
7	6.5	6.5	10.5	10.5	19.0	18.0	24.0	20.5	21.5	21.0	20.0	18.0
8	6.5	6.0	11.0	10.5	19.5	18.0	24.0	22.0	24.0	21.0	19.0	16.5
9	6.5	4.5	13.0	11.0	20.5	19.0	24.0	21.0	23.5	22.0	19.0	16.0
10	4.5	3.5	13.5	13.0	21.5	19.5	24.0	21.5	23.0	21.0	18.5	15.5
11	3.5	3.0	13.5	13.0	23.0	20.5	23.5	20.0	23.5	21.0	19.0	16.5
12	4.5	3.5	13.0	11.5	23.0	21.5	22.0	19.0	23.0	20.5	18.5	15.5
13	5.5	4.5	12.0	10.5	22.0	20.0	22.0	19.5	21.5	19.5	17.0	14.5
14	6.0	5.0	10.5	9.5	21.5	19.0	22.0	20.0	21.5	20.5	18.0	15.0
15	7.0	6.0	11.5	9.5	21.5	19.5	21.0	19.0	22.0	19.0	17.0	15.5
16	8.5	7.0	11.5	11.0	23.0	21.0	21.0	18.5	21.5	19.0	15.5	14.0
17	9.5	9.0	11.0	10.0	21.0	18.5	21.5	18.5	21.0	19.5	14.5	11.5
18	11.0	9.0	11.5	9.5	18.5	17.0	21.5	19.0	20.5	18.5	13.0	10.0
19	12.0	11.0	12.0	11.0	19.0	17.0	21.0	19.0	20.5	19.5	13.0	11.0
20	13.5	12.0	14.0	11.0	20.0	18.0	21.0	19.5	21.5	19.5	13.5	11.0
21	15.0	13.5	15.0	13.5	20.0	18.5	21.0	19.0	20.5	18.0	13.0	10.5
22	15.5	15.0	15.5	14.5	20.5	18.5	21.5	19.0	19.5	17.0	14.0	10.5
23	15.5	14.5	16.0	14.5	20.0	18.0	21.5	19.0	19.0	16.5	14.0	13.0
24	15.0	13.5	17.0	14.5	20.0	17.0	21.5	19.5	18.0	16.0	14.5	12.0
25	14.5	13.0	16.5	15.5	20.5	18.0	22.0	19.5	19.0	16.5	14.5	13.0
26	14.0	12.0	16.5	15.0	21.5	19.0	22.0	21.0	21.5	19.0	17.0	14.0
27	13.5	12.0	16.5	14.5	21.5	20.0	21.5	20.5	24.0	20.0	17.0	16.0
28	12.0	10.5	15.0	14.0	20.5	19.0	21.5	19.0	24.5	21.5	16.0	15.0
29	11.5	10.5	15.0	14.5	19.0	17.0	20.0	17.0	25.0	22.0	15.0	14.5
30	10.5	10.0	15.5	14.5	17.0	16.0	20.0	19.0	24.5	23.0	15.0	13.0
31	---	---	16.0	15.0	---	---	20.5	19.5	24.0	21.5	---	---
MONTH	15.5	3.0	17.0	9.0	23.0	16.0	24.0	16.0	25.0	16.0	24.5	10.0
YEAR	25.0	0.0										

04121900 LITTLE MUSKEGON RIVER NEAR MORLEY, MICH

LOCATION.--Lat 43°30'09", long 85°20'33", in SW¼ SW¼ sec.26, T.13 N., R.9 W., Mecosta County, temperature recorder at gaging station on right bank at upstream side of highway bridge on 130 Avenue, 0.5 mi (.8 km) downstream from Rustford Dam, and 5.2 mi (8.4 km) east of Morley.
DRAINAGE AREA.--138 mi² (357 km²).
PERIOD OF RECORD.--Water temperatures: November 1966 to September 1973.
EXTREMES.--1971-72:
Water temperatures: Maximum, 27.5°C July 21, 22; minimum, freezing point on many days during December to March.
1972-73:
Water temperatures: Maximum, 26.0°C Aug. 28; minimum, freezing point on many days during December to February.
Period of record:
Water temperatures (1966-73): Maximum, 28.°C Aug. 23, 1968, June 28, 1971; minimum, freezing point on many days during winter period.
REMARKS.--Intermittent ice cover during the winter period. Some regulation from dams above station.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	21.0	16.0	9.0	7.0	1.5	1.0	0.5	0.0	0.5	0.0	3.0	0.5
2	20.5	16.5	10.0	8.0	1.0	1.0	2.0	0.5	0.0	0.0	0.5	0.5
3	20.0	16.0	8.5	6.5	2.0	1.0	1.0	0.0	0.0	0.0	0.5	0.5
4	18.0	14.5	7.0	5.5	1.5	1.5	0.5	0.0	0.0	0.0	0.5	0.5
5	16.0	13.0	8.5	6.0	3.0	1.5	0.0	0.0	0.0	0.0	0.5	0.5
6	14.0	11.5	8.0	4.5	3.0	3.0	0.0	0.0	0.0	0.0	0.5	0.5
7	12.5	9.5	5.0	3.0	3.5	3.0	0.0	0.0	0.5	0.0	0.5	0.0
8	10.5	9.0	3.5	1.5	3.5	3.5	0.0	0.0	0.5	0.5	0.5	0.0
9	13.0	10.0	3.5	2.5	4.0	3.5	1.5	0.0	0.5	0.5	0.5	0.5
10	11.5	8.5	6.0	3.0	6.0	4.0	2.0	0.5	0.5	0.5	0.5	0.0
11	12.0	9.5	5.0	3.0	6.0	3.5	1.5	0.5	0.5	0.0	3.0	0.0
12	12.0	8.0	6.0	4.0	3.5	2.5	1.0	0.5	0.0	0.0	5.5	2.0
13	10.5	10.0	6.0	4.0	2.5	1.0	1.0	0.5	0.0	0.0	4.0	0.5
14	12.5	10.5	6.5	4.5	1.0	0.5	0.5	0.5	0.0	0.0	0.5	0.5
15	13.5	9.5	8.5	5.5	2.5	1.5	0.5	0.5	0.0	0.0	5.0	0.5
16	14.5	10.5	7.0	5.0	2.5	2.0	0.5	0.5	0.5	0.0	3.5	2.5
17	12.5	11.5	10.0	7.0	2.0	0.5	0.5	0.0	0.0	0.0	4.0	2.5
18	12.5	12.0	9.5	8.0	0.5	0.5	0.0	0.0	0.5	0.0	5.0	1.0
19	16.0	12.0	8.5	4.5	1.5	0.5	0.0	0.0	1.0	0.5	5.0	1.0
20	16.5	13.0	6.0	4.5	2.0	1.5	0.0	0.0	0.5	0.5	5.5	3.0
21	15.5	13.5	4.5	2.0	1.5	0.5	0.0	0.0	0.5	0.0	6.0	3.0
22	14.5	14.0	2.5	1.5	0.5	0.0	0.0	0.0	0.5	0.5	3.0	0.5
23	14.5	13.0	1.5	1.0	2.0	0.0	0.0	0.0	0.5	0.5	2.0	0.5
24	13.5	13.0	3.0	1.0	3.0	1.5	0.0	0.0	1.5	0.0	3.0	0.5
25	13.0	12.5	3.5	3.0	1.5	1.0	0.5	0.0	1.5	0.5	4.0	0.5
26	15.0	12.5	4.0	3.0	2.0	1.5	0.5	0.5	3.0	0.5	4.0	1.0
27	15.0	13.0	4.0	2.5	1.5	1.5	0.5	0.5	1.5	0.5	5.0	1.0
28	14.5	11.5	4.5	4.0	1.5	0.5	0.5	0.5	2.5	0.5	4.5	2.0
29	13.0	9.5	4.0	2.0	1.0	0.0	0.5	0.5	3.5	2.0	2.5	0.5
30	12.5	11.5	3.0	1.5	1.0	0.0	0.5	0.5	---	---	2.5	0.5
31	12.5	9.5	---	---	0.0	0.0	0.5	0.5	---	---	4.5	1.0
MONTH	21.0	8.0	10.0	1.0	6.0	0.0	2.0	0.0	3.5	0.0	6.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.5	2.0	13.5	12.0	18.0	10.5	23.0	19.0	22.0	19.0	20.5	19.0
2	4.5	2.0	13.5	12.0	21.5	14.0	23.0	19.0	20.0	18.0	19.0	16.5
3	5.5	2.5	12.0	10.5	24.0	16.5	23.5	17.5	20.0	17.0	17.5	15.0
4	6.0	2.0	15.0	9.0	24.0	18.0	21.0	16.5	21.0	14.5	17.5	15.0
5	6.5	2.0	16.5	11.0	22.5	16.0	20.0	15.5	21.5	14.5	17.5	14.5
6	6.0	3.5	14.0	12.0	24.0	18.0	22.5	14.5	18.0	16.5	18.0	15.5
7	3.5	1.5	12.0	10.0	23.5	15.5	19.0	16.0	16.5	15.0	17.0	16.0
8	5.5	0.5	14.5	9.5	24.0	16.5	20.5	16.5	15.0	14.0	18.5	16.5
9	6.5	1.5	14.5	9.5	21.0	16.0	20.0	17.0	19.0	13.5	17.5	14.5
10	8.0	3.5	16.5	9.5	20.5	13.0	24.5	18.0	19.0	13.5	15.5	13.5
11	7.0	3.5	18.5	11.5	17.0	12.5	26.5	19.5	16.0	15.0	15.0	14.5
12	6.5	4.0	19.0	12.5	15.0	14.0	25.0	21.0	21.5	15.5	16.0	15.0
13	5.5	4.5	16.0	13.5	18.5	14.5	25.0	21.0	23.0	17.0	17.0	16.0
14	6.5	3.5	18.0	13.5	21.5	17.0	25.5	20.0	22.5	18.5	18.5	16.0
15	9.0	5.5	15.0	14.0	21.5	17.5	23.0	20.0	22.5	17.0	17.5	14.0
16	9.0	6.0	17.0	13.0	19.0	15.5	22.5	19.0	18.5	16.5	18.0	15.0
17	9.5	4.5	20.0	13.5	21.0	14.0	23.0	18.5	22.5	16.5	20.0	17.0
18	13.0	8.0	22.0	15.5	22.0	15.0	22.0	21.0	23.0	19.0	19.0	17.0
19	12.5	8.0	22.5	16.5	23.5	16.0	23.5	20.0	24.5	19.5	18.0	16.5
20	11.0	7.0	22.5	16.0	22.0	18.5	27.0	21.5	23.0	18.0	18.5	15.5
21	9.5	7.0	23.5	17.0	18.5	15.5	27.5	23.0	24.0	18.0	16.5	14.0
22	7.0	6.0	23.5	17.0	18.5	15.0	27.5	23.0	21.5	20.0	15.0	12.5
23	6.0	5.0	23.5	16.5	15.0	13.5	24.5	22.5	21.0	20.5	13.0	11.0
24	6.5	5.0	24.0	17.0	16.0	13.0	26.0	21.0	21.0	20.0	15.0	13.0
25	10.0	4.0	23.0	16.5	21.0	14.5	23.5	19.5	20.5	19.0	16.0	14.5
26	12.0	6.0	23.0	16.5	19.5	17.0	20.0	16.5	20.0	19.5	17.5	15.5
27	13.5	7.5	23.5	16.5	24.0	16.5	21.0	16.0	19.5	19.0	16.0	13.5
28	15.0	9.0	23.0	16.5	22.5	18.0	22.0	16.5	20.0	18.5	14.0	12.0
29	14.0	10.5	21.5	16.5	20.5	18.5	23.0	16.5	20.0	18.5	15.5	13.5
30	14.5	12.0	19.0	13.0	24.5	17.5	24.0	17.5	21.0	18.5	13.5	12.0
31	---	---	13.0	11.0	---	---	22.0	18.0	21.5	19.0	---	---
MONTH	15.0	0.5	24.0	9.0	24.5	10.5	27.5	14.5	24.5	13.5	20.5	11.0
YEAR	27.5	0.0										

STREAMS TRIBUTARY TO LAKE MICHIGAN

04121900 LITTLE MUSKEGON RIVER NEAR MORLEY, MICH.-Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.0	10.5	6.5	6.0	2.0	1.5	0.0	0.0	1.5	0.5	3.0	1.5
2	14.0	10.5	8.0	6.0	1.5	1.0	0.0	0.0	2.0	1.5	3.5	3.0
3	15.0	12.5	7.5	7.0	2.0	1.5	0.0	0.0	1.5	1.0	3.5	2.5
4	15.5	13.0	7.0	6.5	1.5	0.5	0.0	0.0	2.0	0.5	2.5	1.5
5	14.5	13.5	7.5	6.5	1.5	1.0	0.5	0.0	2.0	1.0	1.5	1.0
6	13.5	11.5	7.0	6.0	1.0	0.5	0.5	0.5	1.5	1.5	3.5	1.0
7	13.0	10.5	7.5	7.0	1.0	1.0	0.5	0.5	1.5	1.0	5.0	3.0
8	12.5	10.0	7.5	7.0	1.0	0.5	0.5	0.5	1.0	0.5	4.0	2.5
9	11.0	8.5	7.0	6.0	0.5	0.0	0.5	0.5	0.5	0.5	2.5	1.5
10	9.5	9.0	6.0	6.0	0.0	0.0	0.5	0.5	0.5	0.5	3.0	2.0
11	11.0	9.0	6.0	6.0	0.0	0.0	0.5	0.5	0.5	0.5	6.5	3.0
12	11.0	9.0	6.5	6.0	0.0	0.0	0.5	0.5	0.5	0.0	6.5	5.0
13	10.0	8.0	6.0	4.5	0.0	0.0	0.5	0.5	0.0	0.0	5.5	5.0
14	11.0	9.0	4.5	3.5	0.0	0.0	0.5	0.5	0.0	0.0	6.0	5.0
15	10.0	7.5	3.5	2.5	0.0	0.0	0.5	0.5	0.5	0.0	6.0	6.0
16	11.0	8.5	3.0	2.0	0.0	0.0	1.0	0.5	0.0	0.0	6.0	5.0
17	9.0	5.5	2.5	2.0	0.0	0.0	2.0	1.0	0.0	0.0	5.0	1.5
18	6.5	5.0	3.5	2.5	0.0	0.0	2.0	1.5	0.5	0.0	3.0	1.0
19	7.0	5.0	4.0	3.5	0.0	0.0	1.5	0.5	0.0	0.0	5.5	2.5
20	7.0	4.5	4.0	3.0	0.5	0.0	0.5	0.5	0.5	0.0	5.5	2.5
21	6.5	5.0	3.5	3.0	1.5	0.5	0.5	0.5	1.5	0.5	6.0	3.0
22	7.5	6.5	3.5	3.0	1.5	1.5	1.0	0.5	1.0	0.5	7.0	3.5
23	8.0	7.5	3.0	2.5	1.5	1.5	1.0	0.5	2.0	0.5	7.5	4.0
24	8.0	6.5	4.0	2.5	2.0	1.5	1.0	0.5	1.5	0.5	7.0	5.0
25	7.0	6.0	4.0	3.5	2.0	1.5	2.0	0.5	1.5	0.0	7.0	6.0
26	7.5	6.0	3.5	3.0	1.5	1.5	2.0	1.0	0.5	0.0	9.5	5.0
27	8.0	6.5	3.5	3.0	1.5	1.0	2.0	2.0	1.0	0.5	9.5	5.5
28	8.5	8.0	3.0	2.5	1.5	1.0	2.0	0.5	1.5	0.5	8.0	6.0
29	9.5	7.5	2.5	1.0	1.5	0.0	0.5	0.5	---	---	8.0	7.0
30	7.5	6.5	2.0	1.0	1.0	0.0	0.5	0.5	---	---	10.0	7.5
31	6.5	6.0	---	---	1.0	0.0	0.5	0.5	---	---	8.5	7.0
MONTH	15.5	4.5	8.0	1.0	2.0	0.0	2.0	0.0	2.0	0.0	10.0	1.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.5	6.5	11.5	9.5	19.0	15.0	21.0	15.5	20.5	18.0	25.5	20.5
2	7.5	7.5	14.0	11.5	21.0	16.0	21.5	18.0	19.5	17.5	25.5	20.5
3	7.5	7.0	12.5	9.0	19.0	17.5	22.5	19.5	20.5	17.0	25.0	20.0
4	7.0	6.0	12.5	8.0	19.5	16.5	23.0	18.5	21.0	16.5	24.0	21.0
5	8.5	5.0	14.0	9.0	19.5	18.0	22.5	18.5	22.5	17.5	23.5	20.5
6	9.0	7.5	12.0	10.0	18.5	17.5	23.5	17.5	22.0	19.0	21.5	17.5
7	8.5	7.0	11.5	10.5	19.0	16.0	25.5	19.0	22.5	19.0	19.5	14.5
8	9.0	5.5	13.0	11.0	21.5	17.0	25.5	20.5	24.5	19.5	17.5	14.0
9	7.5	2.5	15.0	12.0	22.5	18.0	24.5	20.0	22.5	20.5	20.0	15.0
10	4.5	1.5	14.5	12.5	23.5	17.5	25.0	20.0	23.5	19.5	18.5	13.0
11	6.5	2.0	13.5	11.5	24.5	19.5	23.0	17.5	23.5	19.0	19.5	15.0
12	7.5	4.0	12.5	11.5	23.5	20.0	20.5	16.5	22.5	18.5	16.5	12.5
13	8.5	4.0	11.5	9.5	22.5	17.0	23.5	18.5	22.0	17.5	17.0	12.0
14	9.5	5.0	11.5	8.0	22.5	15.5	21.5	18.5	22.0	18.5	18.0	14.0
15	10.0	7.0	14.0	8.5	22.5	17.5	21.5	16.5	22.5	18.0	15.5	13.5
16	10.0	8.5	12.5	10.5	22.5	20.0	21.0	16.0	22.5	17.5	15.0	12.0
17	11.0	7.0	12.0	8.5	20.0	17.5	22.5	16.0	20.5	19.0	12.0	9.5
18	13.5	8.5	12.5	8.5	20.0	17.0	22.0	17.0	22.5	17.5	12.5	8.5
19	15.0	12.5	13.5	11.0	21.5	18.0	22.5	17.5	20.5	19.0	11.5	9.5
20	16.0	13.5	16.5	10.5	22.5	17.5	21.0	18.5	22.5	18.5	14.0	10.0
21	17.0	15.0	17.5	13.0	22.0	17.5	21.5	17.5	21.5	17.0	11.0	9.0
22	16.5	14.5	16.0	13.5	21.0	17.5	22.0	17.5	20.0	15.5	16.5	10.5
23	16.0	12.5	13.5	12.5	20.5	17.0	23.0	17.5	17.5	16.0	15.0	12.5
24	15.5	11.5	17.0	11.0	23.0	17.5	20.5	18.5	19.0	15.5	16.0	11.5
25	14.5	10.5	16.0	14.0	21.5	17.0	23.5	18.5	20.5	16.0	16.0	13.0
26	15.5	11.0	16.0	12.5	23.5	18.5	22.5	19.5	22.5	18.0	18.5	14.5
27	13.5	10.5	15.0	13.5	22.5	19.5	22.5	19.0	25.0	20.5	17.5	16.0
28	13.5	8.5	15.5	13.0	21.0	18.0	21.0	18.0	26.0	21.0	16.5	14.5
29	11.0	8.5	15.0	14.0	18.0	17.0	20.5	15.5	25.5	21.0	17.0	14.0
30	9.5	8.5	15.0	13.5	17.0	16.0	20.5	17.5	23.0	20.5	14.5	12.0
31	---	---	17.0	12.5	---	---	21.5	18.0	24.0	20.0	---	---
MONTH	17.0	1.5	17.5	8.0	24.5	15.0	25.5	15.5	26.0	15.5	25.5	8.5
YEAR	26.0	0.0										

04122500 PERE MARQUETTE RIVER AT SCOTTVILLE, MICH.

LOCATION.--Lat 43°56'42", long 86°16'43", in NW¼ NW¼ sec.19, T.18 N., R.16 W., Mason County, temperature recorder at gaging station on right bank 20 ft (6 m) upstream from highway bridge at south edge of Scottville, 1.4 mi (2.3 km) upstream from India Creek, 5.6 mi (9.0 km) downstream from Big South Branch.
DRAINAGE AREA.--709 mi² (1,836 km²).
PERIOD OF RECORD.--Water temperatures: May 1968 to September 1973.
EXTREMES.--1971-72:
Water temperatures: Maximum, 24.0°C July 22, 23; minimum, freezing point on many days during January and February.
1972-73:
Water temperatures: Maximum, 23.0°C June 11, 12, July 7-9; minimum, freezing point on many days during December to February.
Period of record:
Water temperatures (1968-73): Maximum, 24.5°C June 29, 30, 1971; minimum freezing point on many days during winter period.
REMARKS.--Complete ice cover during winter period.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.5	16.5	11.0	9.0	3.5	3.0	0.5	0.0	0.0	0.0	2.5	1.0
2	17.5	17.0	9.0	9.0	3.0	2.5	0.5	0.0	0.0	0.0	1.0	1.0
3	17.5	17.5	9.0	7.5	2.5	2.5	0.5	0.5	0.0	0.0	1.0	1.0
4	17.5	16.0	7.5	7.0	2.5	2.0	0.5	0.5	0.0	0.0	1.0	1.0
5	16.0	14.0	7.5	7.0	2.5	2.0	0.5	0.0	0.0	0.0	1.0	1.0
6	14.0	13.0	7.5	6.5	3.5	2.5	0.0	0.0	0.0	0.0	1.0	1.0
7	13.0	11.5	6.5	5.0	4.0	3.5	0.0	0.0	0.0	0.0	1.0	1.0
8	11.5	10.5	5.0	4.5	4.0	4.0	0.0	0.0	0.0	0.0	1.0	1.0
9	11.0	10.5	4.5	3.5	4.5	4.0	0.0	0.0	0.0	0.0	1.0	1.0
10	10.5	9.5	4.0	3.5	5.0	4.5	1.0	0.0	0.0	0.0	1.0	1.0
11	9.5	9.5	4.0	4.0	5.0	4.5	1.0	1.0	0.0	0.0	1.0	1.0
12	9.5	9.0	4.5	4.0	4.5	3.5	1.0	0.5	0.0	0.0	3.0	1.0
13	9.5	9.5	4.5	4.5	3.5	2.0	0.5	0.5	0.0	0.0	3.0	1.5
14	10.5	9.5	5.5	4.5	2.0	1.5	0.5	0.5	0.0	0.0	2.0	1.5
15	11.0	10.5	6.5	5.5	2.5	1.5	0.5	0.5	0.0	0.0	4.0	2.0
16	11.5	11.0	6.5	6.0	2.5	2.5	0.5	0.5	0.0	0.0	4.0	4.0
17	12.0	11.5	8.5	6.5	2.5	1.0	0.5	0.0	0.0	0.0	4.0	4.0
18	13.0	12.0	9.0	8.5	1.0	0.5	0.0	0.0	0.0	0.0	4.5	3.5
19	14.0	12.5	9.0	7.0	0.5	0.5	0.0	0.0	0.0	0.0	4.5	3.0
20	14.5	14.0	7.0	6.5	1.0	0.5	0.0	0.0	0.0	0.0	5.0	4.0
21	14.5	14.0	6.5	4.5	1.5	1.0	0.0	0.0	0.0	0.0	5.5	4.5
22	14.5	14.5	4.5	3.5	1.5	0.5	0.0	0.0	0.0	0.0	4.5	2.0
23	14.5	14.0	3.5	2.5	0.5	0.5	0.0	0.0	0.0	0.0	2.0	2.0
24	14.0	13.5	2.5	2.5	1.5	1.0	0.0	0.0	0.0	0.0	2.0	1.5
25	13.5	13.5	3.0	2.5	1.5	1.5	0.0	0.0	0.0	0.0	2.5	1.5
26	13.5	12.5	4.0	3.5	2.0	1.5	0.0	0.0	0.0	0.0	3.0	2.0
27	13.5	13.0	4.0	4.0	2.0	2.0	0.0	0.0	0.5	0.0	3.5	2.0
28	13.5	12.5	4.0	4.0	2.0	1.5	0.0	0.0	1.5	0.5	4.0	3.0
29	12.5	11.5	4.0	4.0	1.5	1.0	0.0	0.0	2.5	1.5	4.0	2.5
30	12.0	12.0	4.0	3.5	1.0	0.5	0.0	0.0	---	---	3.0	2.0
31	12.0	11.0	---	---	0.5	0.5	0.0	0.0	---	---	4.0	2.0
MONTH	17.5	9.0	11.0	2.5	5.0	0.5	1.0	0.0	2.5	0.0	5.5	1.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	3.0	12.5	12.0	14.0	12.0	20.0	18.5	18.5	18.0	19.0	17.5
2	4.0	3.0	12.0	11.5	15.5	14.0	19.0	18.0	18.5	18.0	17.5	16.0
3	4.0	3.5	11.5	10.5	19.0	15.5	19.0	17.0	18.0	17.5	16.0	14.0
4	4.5	3.0	12.0	10.0	20.0	18.0	18.5	16.5	18.0	15.5	14.5	13.5
5	5.5	3.5	13.5	10.5	20.0	17.0	17.5	15.5	17.0	14.5	14.5	13.5
6	5.5	4.5	13.5	12.0	19.5	17.0	18.0	15.5	17.0	16.0	16.5	14.0
7	5.0	3.5	12.5	10.5	19.5	17.0	18.0	16.0	16.0	15.0	16.5	16.5
8	4.5	2.5	13.0	11.0	20.0	18.0	16.5	15.5	15.0	14.0	16.5	16.5
9	5.0	3.0	13.0	11.0	20.0	18.0	16.5	16.0	15.5	13.0	16.5	14.5
10	7.0	4.5	14.0	11.0	18.0	15.0	19.5	16.5	15.5	14.0	15.5	14.5
11	8.0	6.0	15.0	12.0	16.5	14.0	21.5	18.5	15.5	14.5	14.5	14.5
12	8.0	7.0	15.5	12.5	15.0	14.5	21.5	20.5	16.5	14.5	15.0	14.5
13	8.0	7.0	15.5	13.5	17.5	14.5	21.5	20.5	18.5	16.0	15.5	14.5
14	8.0	6.5	15.5	14.0	18.5	17.0	21.0	19.5	18.5	18.0	15.5	15.0
15	9.5	7.5	15.5	14.0	20.0	18.0	20.5	19.0	19.0	17.5	15.5	14.5
16	9.5	8.5	16.0	13.5	20.0	17.5	20.5	19.0	19.0	17.0	16.0	14.5
17	10.0	7.5	17.5	14.5	17.5	15.5	20.0	18.5	19.5	17.5	17.0	16.0
18	11.0	9.5	18.5	15.5	18.5	16.0	19.0	18.5	19.5	18.5	17.5	17.0
19	11.0	10.0	19.5	16.5	19.5	17.0	19.0	18.0	20.5	19.0	17.0	16.0
20	11.5	9.0	19.5	17.0	19.5	18.0	21.5	19.0	20.5	19.0	16.5	15.5
21	11.5	9.0	20.5	18.0	18.0	16.0	23.0	21.0	20.5	19.5	16.5	16.0
22	9.0	7.0	20.5	18.5	16.5	15.0	24.0	22.5	20.5	19.5	16.0	14.0
23	6.5	6.0	20.5	18.5	16.5	15.0	24.0	22.5	20.5	19.5	14.0	12.5
24	7.0	5.5	20.5	18.5	15.0	13.5	22.5	21.0	19.5	18.5	13.5	12.5
25	8.0	5.5	20.5	18.0	17.0	14.0	22.0	20.0	18.5	17.0	14.5	13.0
26	9.5	6.5	20.0	18.0	18.0	15.5	20.0	16.5	17.5	17.0	14.5	14.5
27	11.0	8.0	20.0	18.0	18.5	16.5	17.5	15.5	17.0	16.5	14.5	13.5
28	12.0	9.0	20.0	18.0	19.0	17.5	17.5	16.0	17.5	15.5	13.5	12.5
29	12.5	10.5	20.0	18.5	19.0	18.0	18.5	16.0	17.5	16.5	13.0	13.0
30	12.5	11.5	18.5	14.5	20.0	17.5	19.5	17.5	18.5	17.0	13.0	12.0
31	---	---	14.5	13.0	---	---	19.5	18.0	19.0	17.5	---	---
MONTH	12.5	2.5	20.5	10.0	20.0	12.0	24.0	15.5	20.5	13.0	19.0	12.0
YEAR	24.0	0.0										

04122500 PERE MARQUETTE RIVER AT SCOTTVILLE, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.0	11.0	6.5	6.5	2.0	2.0	1.0	0.5	0.0	0.0	1.5	0.5
2	12.0	11.0	7.0	6.5	2.0	1.5	0.5	0.0	1.0	0.0	2.5	1.5
3	13.0	12.0	7.0	7.0	1.5	1.5	0.0	0.0	1.0	1.0	3.0	2.5
4	13.5	13.0	7.0	6.5	1.5	1.0	0.0	0.0	1.5	1.0	3.0	2.5
5	13.5	13.0	6.5	6.5	1.0	1.0	0.0	0.0	1.5	1.0	3.0	2.5
6	13.0	12.5	6.5	6.5	1.0	1.0	0.0	0.0	1.5	1.0	3.5	2.5
7	12.5	11.0	6.5	6.5	1.0	1.0	0.0	0.0	1.5	1.5	5.0	3.5
8	11.0	10.0	6.5	6.5	1.0	1.0	0.0	0.0	1.5	0.5	5.0	4.5
9	10.0	9.0	6.5	6.5	1.0	0.5	0.5	0.0	0.5	0.0	4.5	3.5
10	9.0	8.0	6.5	6.0	0.5	0.5	0.5	0.5	0.0	0.0	4.5	4.0
11	9.0	8.0	6.0	6.0	0.5	0.5	0.5	0.5	0.0	0.0	7.0	4.5
12	9.0	9.0	5.0	6.0	0.5	0.5	0.5	0.5	0.0	0.0	7.0	6.5
13	9.0	9.5	6.0	5.0	0.5	0.5	0.5	0.5	0.0	0.0	6.5	6.0
14	9.0	9.0	5.0	4.5	0.5	0.0	0.5	0.5	0.0	0.0	7.0	6.5
15	9.0	9.0	4.5	4.0	0.0	0.0	0.5	0.5	0.0	0.0	7.0	6.5
16	8.5	8.0	4.0	3.5	0.0	0.0	0.5	0.5	0.0	0.0	6.5	5.5
17	8.5	7.5	3.5	3.5	0.0	0.0	0.5	0.5	0.0	0.0	5.5	3.5
18	7.5	6.5	3.5	3.5	0.0	0.0	1.5	0.5	0.0	0.0	3.5	2.0
19	6.5	5.5	3.5	3.5	0.0	0.0	1.5	1.0	0.0	0.0	3.5	2.0
20	5.5	4.5	3.5	3.5	0.0	0.0	1.0	0.5	0.0	0.0	4.0	2.5
21	5.5	5.0	3.5	3.5	0.0	0.0	0.5	0.5	0.0	0.0	4.5	3.0
22	6.5	5.5	3.5	3.5	0.5	0.0	0.5	0.5	0.0	0.0	5.0	3.5
23	7.0	6.5	3.5	3.0	1.0	0.5	0.5	0.5	0.0	0.0	6.0	4.0
24	7.0	6.5	3.5	3.0	1.5	1.0	0.5	0.0	0.0	0.0	6.0	5.0
25	6.5	6.0	3.5	3.5	1.5	1.5	0.5	0.0	0.0	0.0	6.5	6.0
26	7.0	6.0	3.5	3.5	1.5	1.5	0.5	0.0	0.0	0.0	8.5	6.5
27	7.0	7.0	3.5	3.5	1.5	1.5	1.0	0.5	0.0	0.0	8.5	6.5
28	7.5	7.0	3.5	3.5	1.5	1.5	1.0	1.0	0.5	0.0	8.5	7.0
29	7.5	7.5	3.5	2.0	1.5	0.5	1.0	0.5	---	---	9.0	7.5
30	7.5	7.0	2.0	2.0	1.0	0.5	0.5	0.0	---	---	10.0	8.5
31	7.0	6.5	---	---	1.0	1.0	0.0	0.0	---	---	10.0	8.5
MONTH	13.5	4.5	7.0	2.0	2.0	0.0	1.5	0.0	1.5	0.0	10.0	0.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	8.5	12.0	10.0	17.5	15.0	19.0	16.5	19.0	18.5	22.0	20.5
2	9.0	9.0	12.5	12.0	18.5	16.5	19.5	18.5	19.0	18.5	22.0	21.5
3	9.0	8.5	12.5	10.5	18.5	17.5	20.0	19.0	19.0	17.5	22.0	21.0
4	8.0	7.5	11.5	9.0	18.5	17.5	21.0	19.0	19.0	17.0	21.5	20.0
5	9.5	6.5	12.5	10.0	19.0	18.5	21.5	20.0	20.5	18.0	20.0	18.5
6	8.5	8.0	13.0	12.0	19.5	18.0	21.5	19.5	21.0	20.0	19.5	18.0
7	8.5	8.5	13.0	13.0	19.5	18.0	23.0	21.0	21.0	20.0	18.0	16.5
8	9.5	7.5	13.5	13.0	19.0	18.0	23.0	22.0	21.5	20.0	17.0	16.5
9	9.5	5.5	15.0	13.0	20.0	18.0	23.0	21.0	21.5	20.5	16.5	16.0
10	5.5	4.5	15.0	14.0	21.5	19.0	22.0	21.0	21.5	20.5	16.5	15.5
11	5.5	4.0	15.0	13.5	23.0	20.5	22.0	19.0	21.5	20.0	16.5	16.0
12	7.0	5.0	15.0	13.5	23.0	21.5	20.5	18.0	21.5	19.5	16.5	15.0
13	8.0	5.5	13.5	12.0	22.0	19.0	20.5	19.0	20.5	18.5	15.5	14.5
14	9.0	6.0	12.5	10.5	20.5	18.5	20.5	19.5	20.5	19.5	15.5	14.5
15	10.0	8.5	14.0	11.0	20.5	19.0	19.5	18.5	20.5	19.0	15.5	15.0
16	10.5	10.0	14.0	12.5	20.5	20.0	19.0	17.0	20.5	19.0	15.0	14.0
17	11.5	9.0	13.5	11.5	20.5	18.5	20.0	17.5	20.0	19.0	14.0	12.0
18	13.0	10.0	13.5	11.5	19.5	18.5	20.0	18.5	20.0	18.5	12.0	11.0
19	14.5	12.5	14.0	12.5	19.5	19.0	20.0	19.0	20.0	19.0	12.0	11.5
20	15.0	14.0	15.5	12.5	20.5	18.5	19.0	18.5	19.5	18.5	12.0	11.5
21	16.5	15.0	17.0	14.5	20.5	19.0	19.0	18.5	19.5	17.5	12.0	11.0
22	17.0	15.0	17.0	16.0	20.5	19.0	19.5	18.5	18.5	17.0	12.5	11.0
23	17.0	14.5	16.5	15.5	20.0	18.5	20.5	18.5	17.5	17.0	12.5	12.5
24	15.0	13.0	16.5	15.0	20.0	18.0	20.5	19.5	17.0	16.5	13.5	12.5
25	15.0	12.0	16.5	15.0	20.0	18.0	21.5	18.5	17.5	16.5	14.0	13.5
26	14.0	12.0	15.5	14.5	20.0	19.0	21.5	20.5	20.0	17.5	16.0	14.0
27	13.5	11.5	15.5	14.5	20.0	19.5	21.0	19.5	22.0	20.0	16.0	16.0
28	13.0	10.5	16.0	14.0	20.0	18.0	20.5	18.0	22.0	21.0	16.0	15.5
29	13.0	10.0	16.0	15.0	18.0	16.0	18.0	16.0	22.5	21.5	15.5	15.0
30	10.5	10.0	15.5	14.0	17.0	16.5	19.0	17.5	22.5	21.5	15.0	14.0
31	---	---	15.0	13.5	---	---	19.0	18.5	21.5	20.5	---	---
MONTH	17.0	4.0	17.0	9.0	23.0	15.0	23.0	16.0	22.5	16.5	22.0	11.0
YEAR	23.0	0.0										

04123500 MANISTEE RIVER NEAR GRAYLING, MICH.

LOCATION.--Lat 44°41'35", long 84°50'50", in SW¼ NW¼ sec.31, T.27 N., R.4 W., Crawford County, temperature recorder at gaging station on right bank, 25 ft (8 m) upstream from bridge on State Highway 72, 3.3 mi (5.3 km) downstream from Goose Creek, and 6.8 mi (10.9 km) northwest of Grayling.

DRAINAGE AREA.--159 mi² (412 km²).

PERIOD OF RECORD.--Water temperature: May 1957 to September 1973.

EXTREMES.--1971-72:
Water temperatures: Maximum, 24.0°C July 22, 23; minimum, freezing point on many days during January and February.
1972-73:
Water temperatures: Maximum, 22.5°C July 7-9; minimum, freezing point on many days during December to February.
Period of record:
Water temperatures (1957-73): Maximum, 24.0°C July 1, 1963, July 22, 23, 1972; minimum, freezing point on many days during winter period.

REMARKS.--Recorder stopped Jan. 14-21, 26-28, Jan. 31 to Feb. 11, Mar. 3, 1972; range in temperature, 0°C to 0.5°C, 0°C, 0°C to 5°C, 0.5°C, respectively, and Feb. 19-22, 25-28, Mar. 4-12, 1973, range 0°C to 1.0°C, 0°C to 0.5°C, 2.5°C to 7.0°C, respectively. A summary of periodic specific conductance data for this station is on page 201.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.0	13.5	8.5	6.0	2.0	1.0	1.0	0.5	---	---	3.0	1.0
2	16.5	14.5	6.5	6.0	1.0	1.0	2.0	1.0	---	---	1.0	1.0
3	15.5	13.5	6.5	5.5	2.0	1.0	1.5	1.0	---	---	---	---
4	15.5	13.0	5.5	4.5	2.0	1.5	1.0	0.5	---	---	1.0	1.0
5	13.5	12.0	6.0	4.5	2.0	1.5	0.5	0.0	---	---	1.0	1.0
6	12.5	11.0	6.0	4.5	3.0	2.0	0.0	0.0	---	---	1.0	1.0
7	11.0	9.5	4.5	2.5	3.5	3.0	0.0	0.0	---	---	1.0	0.5
8	10.5	9.5	3.0	2.5	3.5	3.5	0.0	0.0	---	---	0.5	0.5
9	10.5	9.5	3.0	3.0	3.5	3.5	1.5	0.0	---	---	0.5	0.5
10	10.5	9.0	4.5	3.0	4.0	3.5	1.5	1.0	---	---	1.0	0.5
11	10.5	9.0	4.5	4.5	4.0	3.5	1.5	1.0	0.5	0.5	2.0	1.0
12	10.0	9.0	5.5	4.5	3.5	3.0	1.0	0.5	1.0	0.5	5.0	2.0
13	10.5	9.5	5.0	4.5	3.0	1.5	0.5	0.5	2.5	1.0	5.0	1.5
14	10.5	9.0	5.0	4.5	1.5	1.5	---	---	2.5	2.5	1.5	1.0
15	11.0	9.0	5.5	5.0	2.0	1.5	---	---	2.5	2.0	3.5	1.5
16	10.5	9.0	6.5	5.5	2.0	2.0	---	---	2.0	1.0	3.5	3.5
17	10.5	9.0	8.0	6.5	2.0	1.0	---	---	2.0	1.5	3.5	3.5
18	11.5	10.5	8.0	8.0	1.0	1.0	---	---	2.0	1.5	4.0	2.0
19	13.0	11.5	8.0	5.5	1.0	0.5	---	---	2.0	0.5	4.0	2.5
20	13.5	12.5	5.5	4.5	2.0	0.5	---	---	0.5	0.5	5.5	3.5
21	13.0	11.5	4.5	3.0	2.0	1.5	---	---	0.5	0.5	7.0	5.5
22	11.5	11.5	3.0	2.0	1.5	0.5	1.0	0.0	0.5	0.5	7.0	3.5
23	11.5	10.5	2.0	2.0	1.0	0.5	1.0	1.0	0.5	0.5	3.5	2.0
24	10.5	10.5	2.5	2.0	2.0	1.0	1.0	0.5	0.5	0.5	4.5	2.0
25	10.5	10.0	3.0	2.5	2.0	1.5	0.5	0.0	1.0	0.5	5.0	2.5
26	11.0	10.0	3.0	3.0	1.5	1.5	---	---	1.5	0.5	5.0	2.5
27	11.5	11.0	3.0	3.0	1.5	1.5	---	---	2.0	1.5	6.0	3.0
28	11.5	10.0	3.5	3.0	1.5	1.5	---	---	2.5	2.0	7.0	4.5
29	10.0	9.0	3.5	3.0	1.5	1.0	0.0	0.0	3.0	2.5	6.5	5.0
30	9.5	9.5	3.0	2.0	1.0	0.5	0.0	0.0	---	---	5.0	4.0
31	9.5	8.5	---	---	0.5	0.5	---	---	---	---	6.0	3.5
MONTH	17.0	8.5	8.5	2.0	4.0	0.5	---	---	---	---	7.0	0.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	4.5	11.0	10.0	16.0	10.5	20.5	17.5	19.5	16.0	17.5	14.5
2	6.0	5.0	10.0	9.5	18.5	13.0	21.0	17.0	18.5	15.5	14.5	12.5
3	5.5	5.0	10.0	8.5	19.5	14.5	19.0	15.5	16.5	14.5	13.0	10.5
4	6.0	4.0	12.0	7.5	19.0	15.0	17.0	14.0	16.5	12.5	13.5	11.5
5	6.0	3.5	13.5	9.5	18.0	13.5	16.5	13.0	17.0	13.0	13.5	11.5
6	6.0	4.0	13.5	10.5	19.5	15.5	16.5	13.0	17.0	14.0	14.0	12.0
7	4.5	2.5	11.5	8.5	18.5	14.0	16.5	15.0	14.0	12.5	14.0	14.0
8	6.0	3.0	13.0	9.5	18.0	15.0	17.5	13.5	12.5	11.0	14.5	13.0
9	7.5	4.0	12.5	9.5	17.0	13.0	17.5	15.0	14.5	11.0	14.0	11.0
10	9.0	6.5	13.5	9.0	14.5	10.0	19.5	15.5	15.5	12.0	13.5	11.0
11	10.0	7.5	15.0	11.0	14.0	11.0	19.5	16.5	15.5	13.5	12.0	11.0
12	9.5	7.5	15.0	11.0	13.0	12.0	21.0	17.5	18.5	13.0	14.0	11.5
13	8.5	6.5	15.0	12.0	14.5	12.0	21.0	18.5	20.0	15.5	14.0	13.5
14	9.0	5.5	14.0	12.0	18.0	14.5	20.5	17.5	19.5	15.5	14.5	12.5
15	10.0	7.5	13.5	11.5	20.0	16.5	21.5	17.5	17.5	13.5	13.5	11.0
16	9.5	7.5	13.5	11.5	18.0	13.5	21.0	17.0	17.0	14.5	13.5	11.5
17	9.5	6.5	17.0	12.0	17.5	12.0	18.5	16.0	18.5	14.0	15.0	13.0
18	9.5	8.0	18.0	13.5	19.0	13.5	19.5	17.5	20.0	16.5	15.0	13.0
19	9.5	6.5	19.5	14.5	19.0	14.0	19.5	16.0	20.0	16.0	14.5	12.5
20	10.0	6.0	19.5	14.5	18.5	14.5	22.5	18.0	19.0	16.0	14.5	12.5
21	9.5	7.0	20.0	15.5	14.5	12.5	23.5	19.5	19.0	16.5	14.5	12.5
22	7.5	6.0	19.0	14.5	14.0	12.5	24.0	20.0	19.5	17.0	12.5	9.5
23	6.5	6.5	19.5	14.5	14.0	12.0	24.0	20.5	19.5	17.5	11.0	9.0
24	8.5	6.5	20.0	15.0	12.5	11.5	22.0	18.0	17.5	16.5	11.0	10.5
25	10.0	6.5	19.5	16.0	16.5	12.5	21.0	16.0	18.0	15.0	12.0	11.0
26	11.0	7.5	19.0	14.5	16.5	15.0	16.0	13.5	18.0	15.5	13.0	12.0
27	12.0	8.5	19.0	14.5	19.0	14.0	17.0	12.5	15.5	14.5	12.5	10.0
28	12.5	10.0	19.5	15.0	20.5	15.5	18.0	14.0	17.5	13.0	11.0	9.0
29	13.5	9.5	19.0	15.0	20.0	16.5	20.0	16.0	17.5	14.0	10.5	10.0
30	13.0	11.0	17.0	12.0	20.5	15.5	19.5	16.5	18.0	14.0	10.0	9.0
31	---	---	12.0	10.5	---	---	18.5	15.5	17.5	15.5	---	---
MONTH	13.5	2.5	20.0	7.5	20.5	10.0	24.0	12.5	20.0	11.0	17.5	9.0
YEAR	24.0	0.0										

04123500 MANISTEE RIVER NEAR GRAYLING, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	9.0	4.5	4.0	1.5	1.5	1.5	0.5	0.5	0.0	2.5	1.5
2	10.0	9.0	5.0	4.5	1.5	1.0	0.5	0.5	2.0	0.5	3.0	2.5
3	10.5	10.0	5.0	5.0	1.0	0.5	0.5	0.0	2.0	1.5	4.5	3.0
4	11.0	10.0	5.0	5.0	0.5	0.5	0.5	0.0	1.5	1.5	---	---
5	11.0	10.0	5.0	5.0	1.0	0.5	0.5	0.5	1.5	0.5	---	---
6	10.5	9.5	5.0	5.0	1.0	0.5	0.5	0.5	1.5	1.0	---	---
7	9.5	7.5	5.0	5.0	0.5	0.5	0.5	0.5	1.5	1.5	---	---
8	8.0	7.0	5.0	5.0	0.5	0.5	0.5	0.0	1.5	0.5	---	---
9	7.0	5.0	5.0	4.0	0.5	0.5	0.0	0.0	0.5	0.0	---	---
10	6.5	5.0	4.0	4.0	0.5	0.5	0.0	0.0	0.5	0.0	---	---
11	7.5	6.0	4.0	4.0	0.5	0.5	0.0	0.0	0.5	0.0	---	---
12	7.5	7.5	4.0	4.0	0.5	0.5	0.0	0.0	0.0	0.0	---	---
13	7.5	6.0	4.0	3.0	0.5	0.5	0.0	0.0	0.0	0.0	6.5	5.5
14	7.0	6.5	3.0	2.0	0.5	0.5	0.0	0.0	0.0	0.0	6.0	5.5
15	6.5	5.0	2.0	2.0	0.5	0.0	1.5	0.0	0.0	0.0	6.0	6.0
16	7.5	6.0	2.0	2.0	0.0	0.0	2.5	1.5	0.0	0.0	6.0	5.0
17	7.0	5.0	2.5	2.0	0.0	0.0	3.0	2.5	0.0	0.0	5.0	2.5
18	5.0	4.0	3.0	2.5	0.0	0.0	4.0	3.0	---	---	2.5	1.5
19	4.0	3.5	3.5	3.0	1.0	0.0	4.0	2.5	---	---	5.5	2.0
20	4.5	3.0	3.5	3.0	0.5	0.5	2.5	0.5	---	---	5.0	3.0
21	4.5	4.5	3.0	3.0	1.0	0.5	0.5	0.5	---	---	5.5	3.0
22	5.0	4.5	3.0	3.0	1.5	1.0	2.0	0.5	---	---	6.0	3.0
23	5.0	5.0	3.0	2.5	1.5	1.5	2.0	2.0	1.0	0.5	7.0	4.0
24	5.0	4.5	3.0	2.5	1.5	1.5	2.0	1.0	1.0	0.5	7.0	5.0
25	4.5	3.0	3.0	3.0	1.5	1.5	2.5	1.0	---	---	6.5	6.0
26	5.5	4.0	3.0	2.5	1.5	1.5	2.5	1.5	---	---	7.5	5.0
27	5.5	5.0	2.5	2.5	1.5	1.0	2.5	2.5	---	---	7.5	4.5
28	6.0	5.5	2.5	2.5	1.0	0.5	2.5	1.0	---	---	7.5	5.0
29	6.0	5.0	2.5	1.0	0.5	0.0	1.0	0.5	---	---	8.5	6.5
30	5.0	4.5	1.5	1.0	1.5	0.0	0.5	0.0	---	---	8.5	7.0
31	4.5	4.0	---	---	1.5	1.5	0.0	0.0	---	---	7.5	6.0
MONTH	11.0	3.0	5.0	1.0	1.5	0.0	4.0	0.0	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	5.0	9.0	8.5	13.5	12.0	18.5	13.0	16.0	15.5	19.5	16.5
2	5.0	5.0	11.0	9.0	16.0	12.5	18.5	15.5	15.5	14.5	19.5	17.0
3	5.0	4.5	11.0	7.5	16.0	13.0	19.5	16.0	17.5	13.0	18.5	16.5
4	4.5	4.5	11.0	6.5	18.0	12.5	19.5	16.0	18.0	14.0	18.5	16.5
5	6.5	3.5	12.5	8.0	17.5	14.5	19.5	16.0	19.0	15.0	17.5	14.5
6	8.0	5.5	12.5	9.0	16.0	13.5	20.0	15.0	19.0	16.5	17.5	14.0
7	8.0	4.5	10.0	9.0	16.0	13.0	22.5	17.5	18.5	16.5	15.0	12.5
8	6.5	3.0	11.0	10.0	17.0	14.0	22.5	18.5	19.5	16.5	15.0	12.0
9	6.0	2.0	13.0	10.5	19.0	14.5	22.5	16.5	19.5	17.5	15.0	12.0
10	2.0	0.5	13.5	11.0	20.0	14.5	20.0	17.0	19.0	16.5	15.0	12.0
11	5.5	1.5	14.0	11.0	21.5	17.0	20.0	15.0	19.0	16.0	15.0	13.5
12	5.5	3.5	11.0	10.5	21.0	17.5	18.0	14.0	18.0	14.5	14.5	11.5
13	6.5	3.0	10.5	8.5	18.0	13.0	19.0	13.5	18.0	14.5	13.0	11.0
14	8.0	4.5	11.0	8.0	18.5	13.0	19.0	15.0	18.0	15.5	14.0	12.0
15	9.0	6.5	12.5	8.0	19.5	14.5	18.5	15.0	18.0	14.0	14.0	12.5
16	9.0	9.0	12.5	9.5	19.5	15.0	18.5	13.5	18.0	14.5	12.5	11.0
17	9.5	6.0	9.5	9.0	15.0	12.5	18.5	14.5	17.0	15.0	12.0	9.0
18	11.0	7.0	12.0	6.5	16.0	12.0	18.5	15.0	17.0	14.5	11.5	9.0
19	11.0	9.5	12.0	10.0	16.5	15.5	18.5	15.0	17.5	15.0	11.5	9.5
20	12.5	10.0	14.5	9.5	17.5	14.5	18.5	15.5	17.5	16.0	11.0	9.0
21	13.5	12.0	14.5	11.0	17.5	15.0	18.0	15.0	16.5	13.0	11.0	9.0
22	14.0	12.0	14.0	11.0	17.0	14.0	18.5	15.5	15.5	12.0	11.0	9.5
23	12.5	9.5	16.0	12.0	17.0	14.5	18.5	15.0	15.5	13.0	11.0	11.0
24	12.5	9.5	15.0	11.5	19.0	13.5	18.5	15.5	14.5	12.5	12.0	10.5
25	10.0	8.0	15.0	12.0	18.5	14.0	20.0	16.0	15.5	13.0	12.5	11.0
26	11.0	7.0	13.0	11.5	19.0	16.0	20.0	16.5	17.0	14.5	16.0	12.5
27	10.5	8.0	13.0	12.0	18.5	16.5	17.5	15.5	20.0	16.0	16.0	14.0
28	10.0	7.5	13.5	11.5	18.0	14.5	17.5	15.0	21.0	17.5	14.0	11.5
29	11.0	6.0	13.5	11.5	14.5	13.0	16.5	12.5	21.0	18.0	12.0	10.0
30	11.0	9.0	15.5	11.0	13.0	12.5	17.0	15.0	20.5	17.5	11.5	9.0
31	---	---	15.5	11.0	---	---	17.0	15.5	18.5	16.5	---	---
MONTH	14.0	0.5	16.0	6.5	21.5	12.0	22.5	12.5	21.0	12.0	19.5	9.0
YEAR	22.5	0.0										

04126200 LITTLE MANISTEE RIVER NEAR FREESOIL, MICH.

LOCATION.--Lat 44°11'00", long 86°10'00", in NE¼ NE¼ sec.31, T.21 N., R.15 W., Manistee County, temperature recorder at gaging station on right bank, 25ft (7.6m) upstream from Sixmile Bridge, 5.8 mi (9.3 km) north of Freesoil, 7.4 mi (11.9 km) upstream from mouth, and 9.0 mi (14.5 km) southeast of Manistee.

DRAINAGE AREA.--200 mi² (518 km²).

PERIOD OF RECORD.--Water temperatures: October 1956 to September 1973.

EXTREMES.--1971-72:
Water temperatures: Maximum, 22.5°C July 22; minimum, 0°C Mar. 4.
1972-73:
Water temperatures: Maximum, 21.5°C June 11; minimum, 0.5°C Jan. 1-14.
Period of record:
Water temperatures (1956-73): Maximum, 22.5°C June 28, 29, 1971, July 22, 1972; minimum, freezing point on many days during winter period.

REMARKS.--A summary of periodic specific conductance data for this station is on page 202.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.5	14.5	9.5	8.0	4.0	3.0	2.5	1.0	1.0	1.0	4.0	0.5
2	16.5	15.0	9.0	8.5	3.5	3.0	3.0	2.5	1.5	1.0	1.0	0.5
3	15.5	14.5	9.0	7.5	4.0	3.5	3.0	2.0	1.0	1.0	1.0	0.5
4	14.5	12.5	7.5	7.0	4.0	3.0	2.0	1.0	1.0	1.0	0.5	0.0
5	13.0	11.5	8.0	7.0	4.5	3.5	1.0	1.0	1.0	1.0	1.0	0.5
6	12.5	11.0	8.0	6.0	5.0	4.5	1.0	1.0	1.5	1.0	1.0	1.0
7	11.0	10.0	6.0	5.0	5.5	5.0	1.0	1.0	1.0	1.0	1.5	0.5
8	10.0	10.0	5.5	4.5	5.5	5.5	1.5	1.0	1.0	1.0	1.0	0.5
9	10.5	9.5	5.0	4.0	5.5	5.5	3.0	1.0	1.5	1.0	1.5	1.0
10	9.5	9.0	6.0	4.5	6.0	5.5	3.5	2.5	1.5	1.0	2.0	1.0
11	10.0	8.5	6.0	5.5	6.0	5.0	3.0	2.5	1.0	1.0	3.5	1.5
12	10.0	8.5	6.5	5.5	5.0	3.5	2.5	2.0	1.5	1.0	5.5	2.0
13	10.0	9.0	6.0	5.5	3.5	3.0	2.5	1.5	1.5	1.0	4.5	2.0
14	10.5	9.0	7.0	6.0	3.0	2.5	1.5	1.0	3.0	1.0	2.5	1.5
15	11.5	9.5	8.0	7.0	4.0	3.0	1.0	1.0	3.0	2.5	5.5	2.5
16	11.5	10.0	8.0	7.0	4.0	4.0	1.5	1.0	2.0	1.5	4.5	4.5
17	12.0	10.5	9.5	8.0	4.0	1.5	1.5	1.0	2.5	1.5	4.5	4.0
18	13.0	11.5	9.5	9.0	2.0	1.5	1.0	1.0	2.5	2.0	5.5	3.0
19	14.0	12.5	9.5	7.0	2.5	1.5	1.0	1.0	2.0	1.0	5.0	3.0
20	14.5	13.5	7.0	5.0	3.5	2.5	1.0	1.0	1.0	0.5	6.5	4.5
21	13.5	12.5	5.0	4.0	3.5	2.5	1.0	1.0	1.5	0.5	7.0	5.5
22	13.5	13.0	4.0	3.0	2.5	1.5	1.0	1.0	1.5	0.5	6.5	3.5
23	13.0	12.5	3.0	2.5	2.5	1.0	2.5	1.0	1.0	0.5	3.5	2.0
24	13.5	12.5	4.0	3.0	3.5	2.5	2.0	1.5	2.5	1.0	4.0	1.0
25	13.0	12.5	4.5	4.0	3.0	3.0	1.5	0.5	1.5	1.0	5.0	2.0
26	13.0	12.0	5.0	4.5	3.0	3.0	0.5	0.5	2.5	1.0	5.0	2.5
27	13.0	12.5	5.0	4.5	3.0	2.5	1.0	0.5	1.5	1.0	6.0	3.0
28	12.5	11.0	5.0	5.0	2.5	2.0	1.0	1.0	3.0	1.0	7.0	4.5
29	11.5	10.0	5.0	4.5	2.5	2.0	1.0	1.0	4.0	2.5	5.0	3.5
30	12.0	11.0	4.5	4.0	2.5	0.5	1.0	1.0	---	---	3.5	3.0
31	12.0	9.5	---	---	1.0	0.5	1.0	1.0	---	---	5.5	2.0
MONTH	16.5	8.5	9.5	2.5	6.0	0.5	3.5	0.5	4.0	0.5	7.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.5	3.5	12.0	11.5	14.5	11.5	17.5	16.0	17.5	15.5	18.0	16.0
2	5.0	3.5	11.5	11.0	17.0	13.5	19.0	16.0	16.5	15.5	16.5	14.5
3	5.5	4.0	11.0	9.0	19.5	15.0	19.0	15.0	16.5	14.0	15.5	13.0
4	6.0	3.5	12.0	8.0	19.0	15.5	17.0	13.5	16.5	12.5	15.5	13.0
5	6.5	3.5	13.5	10.0	16.5	14.5	17.0	13.0	16.5	12.5	14.5	13.5
6	5.5	4.0	13.0	10.5	18.5	15.0	17.0	13.0	15.0	14.0	15.5	14.0
7	4.5	3.0	12.0	9.5	18.5	14.5	15.0	14.0	14.5	13.0	15.5	15.5
8	5.5	2.0	13.0	10.0	19.0	15.0	15.0	13.5	13.0	12.5	16.5	14.0
9	6.0	3.0	13.0	10.5	17.5	14.0	15.5	13.5	15.5	12.5	15.5	12.5
10	8.5	5.0	14.0	10.0	15.0	12.5	18.0	14.5	15.5	12.5	14.0	12.5
11	8.0	5.5	15.0	11.0	14.0	12.0	20.0	18.0	15.0	14.0	13.5	13.0
12	7.5	6.0	16.0	12.0	13.5	13.0	20.0	17.5	17.0	13.5	15.5	13.0
13	7.5	5.5	14.0	13.0	16.0	13.0	19.5	17.5	18.5	15.0	15.0	15.0
14	7.0	5.0	15.0	12.5	17.5	15.0	18.0	16.5	17.5	16.5	16.0	14.0
15	9.0	6.0	14.0	12.5	18.5	15.5	19.5	16.5	18.5	15.0	15.0	13.0
16	8.5	7.5	14.0	12.0	16.5	14.5	19.0	16.0	16.5	15.5	15.5	13.0
17	10.0	7.0	17.5	13.0	17.0	13.0	17.5	16.0	19.0	15.5	17.0	15.0
18	11.0	9.0	18.0	14.0	17.5	13.5	18.0	16.5	19.0	17.0	17.0	15.5
19	11.0	9.0	19.0	15.0	18.0	14.5	18.0	15.5	20.0	17.0	16.0	15.0
20	11.5	8.0	19.0	15.0	17.0	14.5	20.5	16.5	19.5	17.0	16.5	14.5
21	10.0	8.5	20.0	16.0	14.5	13.0	21.5	18.5	19.5	17.0	16.0	14.0
22	8.0	7.0	19.5	16.0	15.5	12.5	22.5	19.0	19.5	17.5	14.0	12.0
23	6.5	6.5	19.5	16.0	13.5	12.5	20.5	18.0	18.5	17.5	13.0	11.0
24	8.5	6.0	20.0	16.0	13.0	12.0	20.5	17.0	17.5	16.5	13.5	12.5
25	9.5	6.0	20.0	16.5	16.5	12.5	18.5	15.5	17.0	15.5	14.5	13.5
26	11.0	7.0	20.0	16.5	18.0	14.0	15.5	14.0	16.5	16.0	14.5	14.0
27	12.0	8.0	19.5	16.5	18.5	14.5	17.5	13.5	16.0	15.5	14.0	12.5
28	13.0	9.5	20.0	16.5	18.0	15.5	16.5	13.5	18.5	15.5	13.0	12.0
29	12.5	10.0	17.5	16.5	17.0	16.0	19.0	14.0	18.5	16.0	13.0	12.0
30	13.0	11.5	16.5	12.5	19.0	15.0	18.5	15.0	19.0	16.0	12.0	11.5
31	---	---	13.0	11.5	---	---	17.5	15.5	19.5	17.0	---	---
MONTH	13.0	2.0	20.0	8.0	19.5	11.5	22.5	13.0	20.0	12.5	18.0	11.0
YEAR	22.5	0.0										

04126200 LITTLE MANISTEE RIVER NEAR FREESOIL, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.5	11.0	7.5	7.0	4.0	3.5	2.5	0.5	3.0	1.0	4.5	4.0
2	12.5	10.5	8.5	7.5	3.5	3.0	0.5	0.5	3.5	3.0	5.5	4.5
3	13.5	12.0	8.5	8.0	3.0	2.5	1.0	0.5	3.5	3.0	5.5	5.5
4	14.0	12.5	9.0	7.5	2.5	2.0	1.5	0.5	4.0	3.5	7.0	5.5
5	13.0	12.5	7.5	7.0	2.5	2.0	1.0	0.5	4.0	3.0	6.0	5.0
6	13.0	11.0	8.0	7.0	2.5	1.5	0.5	0.5	4.0	3.5	6.0	4.5
7	11.5	10.0	8.5	8.0	1.5	1.5	0.5	0.5	4.0	3.0	7.5	6.0
8	10.5	10.0	8.5	8.0	1.5	1.5	0.5	0.5	3.0	2.0	7.0	5.5
9	10.0	9.0	8.0	7.0	1.5	1.5	0.5	0.5	2.0	1.5	5.5	4.5
10	9.0	9.5	7.0	7.0	2.0	1.5	0.5	0.5	2.5	1.5	6.5	5.0
11	10.5	9.0	7.5	7.0	2.0	1.5	0.5	0.5	2.0	1.5	9.0	6.5
12	10.5	9.0	7.5	7.0	1.5	1.5	0.5	0.5	2.0	1.5	9.0	7.5
13	10.0	8.5	7.0	5.5	1.5	1.5	0.5	0.5	2.0	1.5	8.0	7.5
14	10.0	9.0	5.5	5.0	2.0	1.5	1.5	0.5	2.0	1.5	8.0	7.5
15	9.0	8.0	5.0	5.0	1.5	1.5	3.0	1.5	2.0	1.0	8.0	7.5
16	10.0	8.5	5.0	5.0	1.5	1.0	4.0	3.0	1.5	1.0	7.5	5.5
17	9.0	7.5	5.0	5.0	1.5	1.0	4.5	4.0	1.5	1.0	5.5	4.0
18	7.5	7.0	5.0	5.0	1.5	1.5	5.0	4.5	1.0	1.0	4.0	3.5
19	7.0	5.5	5.5	5.0	3.0	1.5	5.0	3.0	1.5	1.0	6.0	3.5
20	6.0	4.5	5.0	4.5	3.0	3.0	3.0	1.0	2.5	1.5	6.5	4.5
21	7.0	6.0	5.5	5.0	4.0	3.0	1.0	1.0	2.5	2.5	6.5	4.5
22	8.0	7.0	5.0	5.0	4.0	4.0	2.0	1.0	2.5	2.0	7.0	4.0
23	9.0	7.5	5.0	4.5	4.0	4.0	2.5	2.0	3.0	2.0	7.5	4.5
24	7.5	6.5	5.5	4.5	4.5	4.0	3.0	2.5	3.0	2.0	7.5	6.0
25	7.0	6.0	5.5	5.0	4.0	3.5	3.0	2.0	2.5	1.0	7.5	7.0
26	8.0	7.0	5.5	5.5	3.5	3.0	3.0	2.5	1.5	1.0	9.5	6.5
27	8.5	7.5	5.5	5.0	3.0	3.0	3.5	3.0	1.5	1.0	9.0	6.5
28	9.0	8.5	5.0	4.5	3.0	3.0	3.5	2.5	4.0	1.5	8.5	6.5
29	9.5	7.5	4.5	3.5	4.0	1.5	2.5	1.0	---	---	10.0	7.5
30	7.5	7.0	4.0	3.5	3.0	2.0	1.5	1.0	---	---	11.5	9.0
31	7.5	7.0	---	---	3.0	2.5	1.5	1.0	---	---	10.0	8.5
MONTH	14.0	4.5	8.5	3.5	4.5	1.0	5.0	0.5	4.0	1.0	11.5	3.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	8.5	11.0	9.5	16.5	13.5	18.0	14.0	17.5	16.5	20.5	17.5
2	9.0	8.5	11.5	10.5	18.0	16.5	18.0	16.0	17.0	16.0	20.5	18.0
3	9.5	9.0	10.5	8.0	17.0	15.5	19.0	15.5	18.0	14.5	20.0	18.0
4	8.0	7.5	11.0	7.5	16.5	15.0	19.5	16.5	17.5	14.5	19.0	17.0
5	9.0	6.0	12.5	8.5	16.5	15.5	20.0	17.0	19.0	15.5	18.5	16.5
6	9.5	9.0	11.0	10.5	18.0	15.0	19.5	16.5	18.5	16.5	17.0	15.5
7	9.0	4.0	11.0	10.5	17.0	15.5	21.0	17.5	18.5	17.0	16.0	14.0
8	9.0	5.5	11.5	11.0	17.0	14.5	20.5	18.5	19.5	17.0	14.5	13.0
9	8.5	4.0	14.0	11.0	19.0	15.0	19.5	17.0	19.5	17.5	15.5	13.0
10	5.0	3.5	13.5	12.0	20.0	15.5	21.0	17.5	19.5	17.0	14.5	12.5
11	6.5	5.0	13.0	11.5	21.5	17.5	19.0	16.0	19.5	16.5	15.5	13.5
12	8.0	5.5	12.0	10.5	19.5	17.0	17.5	15.5	19.0	16.0	15.0	12.5
13	7.0	5.5	10.5	9.0	18.5	15.0	19.0	16.0	18.0	15.5	13.5	12.0
14	9.0	6.5	11.5	8.0	19.0	15.0	18.5	17.0	17.5	16.5	14.5	12.5
15	10.0	8.5	13.0	9.0	18.5	15.5	18.0	15.5	18.0	15.0	14.0	13.0
16	11.0	9.5	12.0	10.0	18.5	17.0	18.0	14.0	18.0	15.0	13.0	11.5
17	12.0	9.0	12.0	8.5	17.5	16.0	18.5	14.5	17.0	16.0	11.5	10.0
18	13.5	9.5	10.5	9.0	18.0	15.5	18.5	15.5	17.5	15.5	11.5	9.0
19	14.0	12.5	11.5	10.0	18.0	16.5	17.0	16.0	16.5	16.0	11.0	9.5
20	14.5	13.5	14.0	9.5	19.5	16.0	17.5	16.0	17.5	15.0	12.0	10.0
21	15.0	14.0	16.0	12.0	18.0	16.5	17.5	16.0	16.5	14.0	10.5	10.0
22	16.5	14.5	14.5	12.0	19.0	16.0	18.0	16.0	15.5	13.0	13.0	10.5
23	15.0	12.5	14.0	12.5	17.0	15.0	18.5	15.5	14.5	13.5	12.5	12.0
24	14.0	11.5	16.5	12.5	18.5	15.0	17.0	16.0	14.5	13.5	13.5	11.5
25	13.0	11.0	14.5	13.5	17.5	15.0	19.0	15.5	16.0	13.5	14.0	13.0
26	13.0	10.5	15.0	13.0	18.5	16.0	18.0	17.0	18.0	15.0	16.5	13.5
27	13.0	10.0	14.0	13.5	18.5	17.0	19.5	17.0	20.0	17.0	15.5	14.5
28	12.0	9.0	15.0	12.5	17.5	15.0	17.0	15.0	20.5	18.0	15.5	13.5
29	10.0	8.5	15.0	13.5	15.0	14.5	17.0	13.5	21.0	18.0	14.0	13.0
30	9.5	9.0	16.0	12.5	15.0	14.0	18.0	16.0	19.5	18.5	14.0	11.5
31	---	---	15.0	12.0	---	---	18.0	16.0	19.5	17.5	---	---
MONTH	16.5	3.0	16.5	7.5	21.5	13.5	21.0	13.5	21.0	13.0	20.5	9.0
YEAR	21.5	0.5										

04127000 BOARDMAN RIVER NEAR MAYFIELD, MICH.

LOCATION.--Lat 44°38'10", long 85°31'10", in SE¼ NE¼ sec.21, T.26 N., R.10 W., Grand Traverse County, temperature recorder at gaging station on right bank, 25 ft (8 m) downstream from Brown's Bridge, 300 ft (91 m) downstream from East Creek, 0.9 mi (1.4 km) downstream from Brown Bridge Dam, 1.0 mi (1.6 km) northeast of Mayfield, and 9.6 mi (15.4 km) southeast of Traverse City.

DRAINAGE AREA.--223 mi² (578 km²).

PERIOD OF RECORD.--Water temperatures: June 1961 to September 1973.

EXTREMES.--1971-72:

Water temperatures: Maximum, 20.0°C July 23-25; minimum, 1.0°C on several days during February.

1972-73:

Water temperatures: Maximum, 21.5°C July 8, 10; minimum, 1.0°C on several days during December.

Period of record:

Water temperatures (1961-73): Maximum, 22.0° July 2, 1963; minimum, 0°C Jan. 10-15, 1968, Jan. 26-28, 1970.

REMARKS.--Flow regulated by powerplant 0.9 mi (1.4 km) above station. A summary of periodic specific conductance data for this station is on page 203.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.0	13.0	10.0	9.0	2.5	2.5	2.0	2.0	1.5	1.5	2.0	2.0
2	15.0	14.0	9.5	9.5	2.5	2.5	2.0	2.0	1.5	1.5	2.0	2.0
3	15.0	14.0	9.5	9.0	2.5	2.5	2.0	2.0	1.5	1.5	2.0	2.0
4	14.0	14.0	9.0	8.5	2.5	2.5	2.0	2.0	1.5	1.5	2.0	2.0
5	14.0	13.5	8.5	8.0	2.5	2.5	2.0	2.0	1.5	1.5	2.0	2.0
6	13.5	13.5	8.0	7.0	2.5	2.5	2.0	2.0	1.5	1.5	2.0	2.0
7	13.5	13.0	7.0	6.0	2.5	2.5	2.0	2.0	1.5	1.5	2.0	2.0
8	13.0	12.0	6.0	5.0	2.5	2.5	2.0	2.0	1.5	1.0	2.0	2.0
9	12.0	11.5	5.0	5.0	2.5	2.5	2.0	2.0	1.0	1.0	2.0	2.0
10	11.5	11.0	5.0	4.5	2.5	2.5	2.0	2.0	1.0	1.0	2.0	2.0
11	11.0	10.5	4.5	4.5	2.5	2.5	2.0	2.0	1.0	1.0	2.0	2.0
12	10.5	10.5	4.5	4.5	2.5	2.5	2.0	2.0	1.0	1.0	2.0	2.0
13	11.0	10.5	4.5	4.0	2.5	2.5	2.0	2.0	1.0	1.0	2.0	2.0
14	10.5	10.0	4.0	4.0	2.5	2.5	2.0	2.0	1.5	1.0	2.0	2.0
15	11.0	10.0	4.0	4.0	2.5	2.0	2.0	2.0	1.5	1.5	2.5	2.0
16	11.0	11.0	4.5	4.0	2.0	2.0	2.0	2.0	1.5	1.5	2.5	2.5
17	11.0	11.0	4.5	4.5	2.0	2.0	2.0	1.5	1.5	1.5	2.5	2.5
18	11.0	11.0	5.0	4.5	2.0	1.5	1.5	1.5	1.5	1.5	2.5	2.5
19	11.0	10.5	5.0	5.0	2.0	1.5	1.5	1.5	1.5	1.5	2.5	2.5
20	12.5	11.0	5.0	5.0	2.0	2.0	1.5	1.5	1.5	1.5	2.5	2.5
21	12.5	12.5	5.0	5.0	2.0	2.0	1.5	1.5	1.5	1.5	3.0	2.5
22	12.5	12.5	5.0	4.5	2.0	2.0	1.5	1.5	1.5	1.5	3.0	3.0
23	12.5	12.5	4.5	3.5	2.0	2.0	1.5	1.5	1.5	1.5	3.0	3.0
24	12.5	12.5	3.5	3.5	2.0	2.0	1.5	1.5	1.5	1.5	3.0	3.0
25	12.5	11.5	3.5	3.5	2.0	2.0	1.5	1.5	1.5	1.5	3.5	3.0
26	11.5	11.0	3.5	2.5	2.0	2.0	1.5	1.5	2.0	1.5	3.5	3.5
27	11.5	10.5	2.5	2.5	2.0	2.0	1.5	1.5	2.0	2.0	3.5	3.5
28	11.5	10.5	2.5	2.5	2.0	2.0	1.5	1.5	2.0	2.0	3.5	3.5
29	11.0	11.0	2.5	2.5	2.0	2.0	1.5	1.5	2.0	2.0	3.5	3.5
30	11.0	11.0	2.5	2.5	2.0	2.0	1.5	1.5	---	---	3.5	3.5
31	11.0	10.0	---	---	2.0	2.0	1.5	1.5	---	---	3.5	3.5
MONTH	15.0	10.0	10.0	2.5	2.5	1.5	2.0	1.5	2.0	1.0	3.5	2.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.5	3.5	6.5	6.5	14.0	13.0	16.5	15.0	18.5	18.0	18.0	17.5
2	3.5	3.5	6.5	5.5	13.5	13.0	18.0	15.5	18.5	17.5	18.0	17.0
3	3.5	3.5	5.5	5.5	14.5	13.5	18.0	16.5	18.0	17.5	17.0	16.5
4	4.0	3.5	7.5	5.5	16.0	14.5	17.5	16.0	17.5	17.0	16.5	15.5
5	4.0	4.0	7.5	7.0	15.5	15.5	16.5	16.0	17.0	16.0	15.5	15.0
6	4.0	4.0	7.5	6.5	17.5	15.5	16.0	15.5	17.0	16.5	15.5	14.5
7	4.0	3.5	8.0	7.5	16.0	15.0	15.5	15.5	16.5	15.5	15.5	14.0
8	4.0	4.0	8.5	8.0	16.0	15.0	15.5	14.5	15.5	15.0	16.0	15.5
9	4.0	4.0	8.5	8.0	16.5	16.0	15.0	14.0	15.0	14.0	16.0	15.0
10	4.0	4.0	8.5	7.5	16.0	15.0	16.0	14.0	15.0	14.0	15.0	14.5
11	4.0	4.0	9.5	7.5	15.0	13.5	16.0	15.0	14.5	13.5	14.5	14.5
12	4.5	4.0	9.5	9.5	13.5	13.5	16.0	14.5	15.5	14.5	14.5	14.0
13	4.5	4.5	10.5	9.5	14.0	13.5	19.5	16.5	16.5	15.5	14.0	13.5
14	5.0	4.5	10.5	10.5	14.0	12.5	19.0	17.0	18.5	16.5	15.0	14.0
15	5.0	5.0	10.5	10.5	16.0	13.0	18.5	17.0	18.5	17.5	14.5	13.0
16	5.0	5.0	11.0	10.5	16.0	15.0	18.0	17.5	17.5	15.5	14.0	13.5
17	5.0	5.0	11.5	11.0	16.0	14.0	18.0	17.5	17.0	16.5	15.0	13.5
18	5.0	5.0	12.0	11.5	16.0	16.0	18.0	16.0	19.0	17.0	16.0	15.0
19	5.0	5.0	12.5	12.0	16.0	15.5	18.0	17.5	19.0	18.0	16.0	15.5
20	5.0	5.0	13.0	12.5	16.0	14.5	18.0	17.0	18.5	18.0	16.0	15.0
21	5.0	5.0	14.5	13.0	15.5	14.5	19.5	18.0	18.5	17.0	15.0	13.5
22	5.0	5.0	15.5	14.5	14.5	14.0	19.5	18.5	19.5	18.0	15.0	14.0
23	5.0	5.0	17.0	15.5	14.0	13.0	20.0	19.5	19.5	19.0	14.5	14.0
24	5.0	5.0	17.0	16.0	13.0	12.5	20.0	20.0	19.0	17.5	14.0	12.5
25	6.0	5.0	16.5	16.0	14.5	12.0	20.0	19.5	18.5	18.0	14.0	13.0
26	6.0	6.0	16.5	15.0	15.0	13.0	19.5	18.5	19.0	18.0	14.0	12.5
27	6.0	5.0	15.0	15.0	15.0	14.0	19.0	18.0	18.0	16.5	13.5	13.0
28	6.0	5.0	15.0	15.0	15.5	15.0	18.5	18.0	18.0	16.5	13.5	12.5
29	6.0	5.5	15.0	14.5	17.0	15.0	18.0	17.0	18.0	18.0	12.5	12.0
30	6.5	5.5	14.5	14.5	16.5	15.5	17.5	17.5	18.0	17.0	12.0	11.5
31	---	---	14.5	14.0	---	---	17.5	17.0	18.0	16.5	---	---
MONTH	6.5	3.5	17.0	5.5	17.5	12.0	20.0	14.0	19.5	13.5	18.0	11.5
YEAR	20.0	1.0										

04127000 BOARDMAN RIVER NEAR MAYFIELD, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.5	11.5	5.5	5.5	2.0	2.0	2.5	2.0	3.0	3.0	3.0	3.0
2	11.5	11.5	5.5	5.5	2.0	1.5	2.5	2.5	3.0	2.5	3.0	3.0
3	11.5	10.5	5.5	5.5	1.5	1.5	2.5	2.5	2.5	2.5	3.0	3.0
4	11.5	11.0	5.5	5.5	1.5	1.5	2.5	2.5	2.5	2.5	3.5	3.0
5	11.0	11.0	5.5	5.5	1.5	1.5	2.5	2.5	3.0	2.5	3.5	3.5
6	11.0	11.0	5.5	5.5	1.5	1.5	2.5	2.0	3.0	3.0	4.0	3.5
7	11.0	10.5	5.5	5.5	1.5	1.5	2.0	2.0	3.0	3.0	4.5	4.0
8	10.5	10.0	5.5	5.5	1.5	1.5	2.0	2.0	3.0	3.0	4.5	4.5
9	10.0	9.5	5.5	5.5	1.5	1.0	2.0	2.0	3.0	3.0	5.0	4.5
10	10.0	9.5	5.5	5.5	1.0	1.0	2.0	2.0	3.0	3.0	5.0	5.0
11	10.0	9.5	5.5	5.5	1.0	1.0	2.0	2.0	3.0	3.0	5.0	5.0
12	9.5	9.5	5.5	5.5	1.0	1.0	2.0	2.0	3.0	3.0	5.0	5.0
13	9.5	9.5	5.5	5.0	1.0	1.0	2.0	2.0	3.0	3.0	5.0	5.0
14	9.5	9.0	5.0	4.0	1.0	1.0	2.0	1.5	3.0	3.0	5.0	5.0
15	9.0	9.0	4.0	4.0	1.0	1.0	1.5	1.5	3.0	3.0	5.0	5.0
16	9.0	8.5	4.0	4.0	1.0	1.0	2.0	1.5	3.0	3.0	5.0	5.0
17	8.5	8.5	4.0	4.0	1.0	1.0	2.0	2.0	3.0	2.5	5.0	5.0
18	8.5	7.5	4.0	3.5	1.0	1.0	2.0	2.0	2.5	2.5	5.0	5.0
19	7.5	7.0	3.5	3.5	1.0	1.0	2.0	2.0	2.5	2.5	5.0	4.0
20	7.0	6.5	3.5	3.0	1.0	1.0	2.5	2.0	2.5	2.5	4.5	4.0
21	6.5	6.5	3.0	3.0	1.5	1.0	2.5	2.5	2.5	2.5	4.5	4.5
22	6.5	6.5	3.0	3.0	1.5	1.5	2.5	2.5	3.0	2.5	5.5	4.0
23	6.5	6.0	3.0	3.0	1.5	1.5	2.5	2.5	3.0	3.0	5.0	5.0
24	6.0	6.0	3.0	2.5	1.5	1.5	2.5	2.5	3.0	3.0	5.0	5.0
25	6.0	6.0	2.5	2.5	1.5	1.5	2.5	2.5	3.0	3.0	5.5	5.0
26	6.0	6.0	2.5	2.5	2.0	1.5	3.0	2.5	3.0	3.0	6.5	5.5
27	6.0	6.0	2.5	2.5	2.0	2.0	3.0	3.0	3.0	3.0	6.5	6.5
28	6.0	5.5	2.5	2.5	2.0	2.0	3.0	3.0	3.0	3.0	7.0	6.5
29	5.5	5.5	2.5	2.5	2.0	2.0	3.0	3.0	---	---	8.5	7.0
30	5.5	5.5	2.5	2.0	2.0	2.0	3.0	3.0	---	---	8.5	8.5
31	5.5	5.5	---	---	2.0	2.0	3.0	3.0	---	---	8.5	8.5
MONTH	11.5	5.5	5.5	2.0	2.0	1.0	3.0	1.5	3.0	2.5	8.5	3.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.5	8.0	11.5	10.5	15.5	13.5	16.0	15.0	18.5	18.0	19.5	19.5
2	8.0	8.0	10.5	10.5	16.0	15.5	16.5	15.5	18.0	17.5	20.0	19.5
3	8.0	7.0	10.5	10.5	15.5	15.5	17.5	16.5	18.0	17.0	20.0	20.0
4	7.0	7.0	11.0	10.5	15.0	15.0	18.0	17.0	17.5	17.0	20.0	19.0
5	7.0	7.0	12.0	10.5	16.0	14.5	18.5	18.0	17.5	16.5	19.0	19.0
6	7.0	7.0	11.5	11.0	16.0	15.0	18.5	17.5	18.0	17.0	19.0	19.0
7	7.0	7.0	11.0	11.0	16.5	15.5	19.0	18.0	18.5	18.0	19.0	18.0
8	7.0	7.0	11.0	11.0	16.5	15.5	21.5	19.0	18.5	17.5	18.0	18.0
9	7.0	6.0	11.5	11.0	18.0	16.5	20.5	20.5	18.0	17.5	18.0	17.5
10	6.0	5.0	11.5	10.5	19.0	17.0	21.5	20.5	19.5	17.5	17.5	15.0
11	5.0	5.0	11.5	11.5	19.5	18.0	21.0	20.0	19.0	18.5	16.5	15.0
12	5.5	5.0	11.5	11.5	20.0	19.5	19.5	18.5	19.5	18.5	16.5	16.0
13	6.0	5.0	11.5	11.5	20.0	19.0	18.5	17.5	19.5	19.0	16.0	16.0
14	5.5	5.0	11.5	11.0	19.0	18.5	19.5	18.5	19.5	19.0	16.0	15.5
15	6.0	5.5	11.5	10.0	18.5	18.0	19.5	18.5	19.0	18.5	15.5	14.5
16	6.5	6.0	10.5	10.0	20.5	18.5	19.5	18.5	19.0	18.5	15.0	14.5
17	7.5	6.5	11.0	10.5	20.5	18.5	19.0	18.5	18.5	18.0	15.0	14.0
18	9.0	7.5	10.5	10.0	18.5	17.5	18.5	18.0	18.5	18.0	14.0	13.0
19	11.0	9.0	11.0	10.0	17.5	15.5	19.0	18.0	18.5	17.5	13.0	11.5
20	11.0	11.0	12.0	10.5	17.0	15.5	19.0	19.0	18.0	17.5	13.0	12.0
21	11.5	9.5	13.5	11.5	17.0	16.0	20.0	18.5	19.0	18.0	13.0	12.5
22	12.5	11.0	14.0	12.5	18.0	17.0	20.5	18.5	18.0	17.0	12.5	11.5
23	13.0	12.5	15.5	13.5	17.5	17.5	20.5	18.5	17.0	16.5	11.5	11.5
24	14.0	13.0	16.0	14.0	18.0	17.0	19.5	19.0	16.5	16.5	12.5	11.5
25	13.5	13.0	15.5	14.5	17.5	17.5	19.0	17.5	16.5	16.0	13.0	12.5
26	13.0	12.0	14.5	14.5	18.5	17.0	19.5	18.5	16.5	16.0	13.5	12.5
27	13.0	12.0	14.5	14.0	18.5	17.5	18.5	17.0	16.5	16.0	15.0	13.0
28	12.5	11.5	14.0	13.5	17.5	17.5	18.0	17.5	18.0	16.5	15.0	15.0
29	12.5	11.0	14.0	13.5	17.5	16.0	18.0	17.5	18.5	18.0	15.0	14.5
30	12.0	11.5	14.5	13.5	16.0	15.5	17.5	17.0	19.5	18.5	15.0	14.0
31	---	---	14.0	13.0	---	---	18.5	18.0	19.5	19.0	---	---
MONTH	14.0	5.0	16.0	10.0	20.5	13.5	21.5	15.0	19.5	16.0	20.0	11.5
YEAR	21.5	1.0										

04127800 JORDAN RIVER NEAR EAST JORDAN, MICH.

LOCATION.--Lat 45°06'09", long 85°05'53", in NW¼ NW¼ sec.7, T.31 N., R.6 W., Antrim County, temperature recorder at gaging station on right bank, 600 ft (183 m) downstream from Webster Bridge, 4.2 mi (6.8 km) south of East Jordan, and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--67.7 mi^2 (175 km^2).

PERIOD OF RECORD.--Water temperatures: October 1966 to September 1973.

EXTREMES.--1971-72:

Water temperatures: Maximum, 19.5°C July 22-24; minimum, 0.5°C on many days during November and January to March.

1972-73:

Water temperatures: Maximum, 18.5°C July 7, 8; minimum, 1.0°C on several days during December.

Period of record:

Water temperatures (1966-73): Maximum, 19.5°C June 28, 29, 1971, July 22-24, 1972; minimum, freezing point on many days during winter period.

REMARKS.--Recorder stopped Feb. 4-9, 1972, range in temperature 0.5°C to 1.0°C; Dec. 26-28, 1972, range 2.0°C to 2.5°C. A summary of periodic specific conductance data for this station is on page 202.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	12.0	8.5	7.0	2.0	1.0	2.0	1.0	1.0	0.5	2.0	0.5
2	14.5	13.5	7.0	7.0	1.0	1.0	2.5	2.0	1.0	1.0	0.5	0.5
3	13.5	13.0	7.0	7.0	1.5	1.0	2.5	2.5	1.0	0.5	0.5	0.5
4	13.5	12.5	7.0	5.5	1.5	1.5	2.5	2.0	---	---	0.5	0.5
5	12.5	11.0	6.0	5.5	1.5	1.5	2.0	1.5	---	---	0.5	0.5
6	11.0	10.5	6.0	5.0	2.0	1.5	1.5	1.5	---	---	0.5	0.5
7	12.0	11.0	5.0	3.0	2.0	2.0	1.5	1.5	---	---	0.5	0.5
8	11.0	10.5	3.0	3.0	2.5	2.0	1.5	1.5	---	---	0.5	0.5
9	10.5	10.5	3.0	3.0	2.5	2.5	2.5	1.5	---	---	0.5	0.5
10	10.5	10.0	3.5	3.0	3.5	2.5	2.5	2.5	0.5	0.5	0.5	0.5
11	10.0	10.0	3.5	3.5	3.5	3.5	2.5	2.5	0.5	0.5	2.0	0.5
12	10.0	10.0	4.0	3.5	3.5	3.5	2.5	2.0	1.5	0.5	3.0	2.0
13	10.0	10.0	4.0	4.0	3.5	2.5	2.0	2.0	2.0	1.5	3.0	3.0
14	10.0	10.0	4.5	4.0	2.5	2.5	2.0	1.5	2.0	2.0	3.0	2.0
15	10.0	10.0	6.0	4.5	2.5	2.5	1.5	1.5	2.0	2.0	3.0	2.0
16	10.0	9.5	6.0	6.0	2.5	2.5	1.5	1.5	2.0	1.5	3.0	3.0
17	11.0	9.5	7.0	6.0	2.5	1.5	1.5	1.5	1.5	1.5	3.0	3.0
18	11.0	10.5	6.5	6.5	1.5	1.5	1.5	1.0	2.0	1.5	3.0	2.0
19	12.5	10.5	6.5	5.5	1.5	1.5	1.0	0.5	2.0	1.0	2.5	2.0
20	12.5	12.5	5.5	4.5	2.0	1.5	1.0	1.0	1.0	1.0	3.5	2.0
21	12.5	12.0	4.5	3.5	2.0	2.0	1.0	1.0	1.0	1.0	4.0	3.5
22	12.0	11.5	3.5	2.0	2.0	1.5	1.5	0.5	1.0	0.5	4.0	2.5
23	11.5	11.5	2.0	0.5	2.0	1.5	1.5	1.5	0.5	0.5	2.5	1.5
24	11.5	11.0	1.5	0.5	2.5	2.0	1.5	1.5	1.0	0.5	1.5	1.0
25	11.0	11.0	2.0	1.5	2.5	2.0	1.5	0.5	1.0	0.5	2.0	1.5
26	11.0	11.0	2.5	2.0	2.0	2.0	0.5	0.5	0.5	0.5	2.0	1.5
27	11.5	10.5	2.5	2.5	2.5	2.0	0.5	0.5	1.0	0.5	2.5	1.5
28	11.5	10.5	2.5	2.5	2.5	2.5	0.5	0.5	1.0	1.0	4.0	2.5
29	10.5	9.0	2.5	2.5	2.5	2.0	0.5	0.5	2.0	1.0	4.0	3.5
30	9.5	9.0	2.5	2.0	2.0	1.0	0.5	0.5	---	---	3.5	3.0
31	9.0	8.5	---	---	1.0	1.0	0.5	0.5	---	---	4.0	2.5
MONTH	14.5	8.5	8.5	0.5	3.5	1.0	2.5	0.5	2.0	0.5	4.0	0.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	3.0	9.5	9.0	12.0	9.0	16.5	15.0	16.0	15.0	14.5	13.5
2	4.0	3.5	9.0	8.5	13.5	11.0	16.5	15.0	16.0	15.0	13.5	12.0
3	4.	4.0	8.5	8.0	14.0	12.0	16.0	14.0	15.0	14.0	12.0	10.0
4	4.0	3.0	9.0	6.0	14.0	12.5	14.5	12.5	14.5	12.0	11.0	10.0
5	3.5	2.5	10.5	8.0	13.5	10.5	14.5	11.5	14.0	12.5	11.0	10.5
6	3.0	2.5	10.5	9.0	14.5	12.0	15.0	12.5	14.0	13.0	11.5	10.5
7	2.5	1.5	9.0	7.0	14.0	11.5	15.0	14.0	13.0	13.0	12.0	11.5
8	2.5	1.5	9.5	7.5	14.0	13.0	14.5	13.0	13.0	11.5	12.0	12.0
9	3.5	1.5	9.5	8.0	13.5	12.0	14.5	14.0	13.0	11.5	12.0	10.5
10	5.0	3.5	10.0	7.5	12.0	9.0	15.0	13.5	13.0	11.5	11.0	10.5
11	5.0	4.0	11.5	9.0	11.0	9.5	16.0	14.5	13.0	12.5	10.5	10.5
12	5.0	4.0	11.5	9.5	10.0	10.0	17.5	15.5	14.5	12.0	11.5	10.5
13	4.5	3.5	11.5	10.5	12.5	10.0	17.5	16.5	15.5	13.5	11.5	11.5
14	4.5	3.5	11.0	10.5	14.5	12.5	17.5	15.5	15.5	14.5	11.5	11.5
15	4.5	3.5	11.0	10.5	15.5	14.0	17.5	16.0	14.5	12.5	11.5	10.5
16	4.5	3.5	12.5	10.5	15.0	12.5	17.5	15.0	14.0	13.0	11.5	10.5
17	6.0	4.0	14.0	11.0	13.5	10.5	16.0	15.0	14.5	13.0	12.5	11.5
18	6.0	5.5	14.5	12.0	15.0	12.0	16.5	15.5	15.0	14.5	12.5	12.0
19	6.0	5.5	15.0	13.0	16.0	13.5	16.5	15.0	15.0	14.0	12.5	11.5
20	7.0	5.0	15.5	13.5	16.0	13.5	18.5	16.5	15.0	14.0	12.5	11.5
21	7.0	5.5	15.5	13.5	13.5	12.0	19.0	18.0	15.5	14.5	12.5	12.0
22	5.5	5.5	15.5	12.5	12.0	11.5	19.5	18.0	16.5	15.5	12.0	10.0
23	5.5	5.0	15.0	12.5	12.0	11.5	19.5	18.5	16.0	15.0	10.0	8.5
24	6.5	5.0	15.5	13.0	11.5	11.5	19.5	17.0	15.5	15.0	10.0	9.5
25	7.0	5.0	15.5	13.5	14.5	11.5	18.5	15.0	15.5	14.5	11.5	10.0
26	8.0	5.5	15.0	13.0	14.5	14.0	15.0	12.5	15.0	14.0	11.5	11.5
27	8.5	6.5	14.5	12.5	15.5	13.5	13.5	12.0	14.0	14.0	11.5	10.5
28	10.0	8.0	15.0	12.5	15.5	14.0	14.5	12.5	14.0	13.0	11.5	9.5
29	10.5	8.5	14.5	12.5	15.5	14.5	15.5	14.0	14.0	13.0	11.5	11.5
30	10.5	9.5	13.0	10.0	16.5	14.5	16.5	14.5	14.0	12.5	11.5	10.5
31	---	---	10.0	9.0	---	---	16.5	15.5	14.5	13.5	---	---
MONTH	10.5	1.5	15.5	6.0	16.5	9.0	19.5	11.5	16.5	11.5	14.5	8.5
YEAR	19.5	0.5										

04127800 JORDAN RIVER NEAR EAST JORDAN, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.5	9.5	5.5	5.0	2.5	2.5	2.0	1.5	3.0	2.5	3.0	3.0
2	10.0	9.5	6.0	5.5	2.5	2.5	2.0	2.0	3.0	3.0	3.5	3.0
3	10.5	10.0	6.0	6.0	2.5	2.0	2.0	2.0	3.0	3.0	3.5	3.5
4	11.0	10.5	6.0	5.5	2.0	1.5	2.0	2.0	3.0	3.0	4.0	3.5
5	11.0	10.5	5.5	5.5	1.5	1.5	2.0	1.5	3.0	3.0	4.0	4.0
6	11.0	10.5	5.5	5.5	1.5	1.0	1.5	1.5	3.0	3.0	4.0	4.0
7	10.5	9.0	6.0	5.5	1.0	1.0	2.0	1.5	3.0	2.5	4.5	4.0
8	9.0	9.0	6.0	6.0	1.0	1.0	2.0	2.0	2.5	2.0	4.5	4.5
9	9.0	8.0	6.0	5.5	1.0	1.0	2.0	2.0	2.0	2.0	4.5	3.5
10	8.0	7.0	5.5	5.5	1.0	1.0	2.0	2.0	2.0	2.0	5.0	4.0
11	8.0	7.0	5.5	5.5	1.0	1.0	2.0	2.0	2.0	2.0	6.5	5.0
12	8.0	8.0	5.5	5.5	1.0	1.0	2.0	2.0	2.0	2.0	6.5	6.0
13	8.0	7.0	5.5	5.0	1.0	1.0	2.5	2.0	2.0	2.0	6.0	5.5
14	7.5	7.5	5.0	4.0	1.0	1.0	3.0	2.5	2.5	2.0	5.5	5.5
15	7.5	7.0	4.0	3.0	1.0	1.0	3.5	3.0	2.5	2.0	5.5	5.5
16	7.5	7.0	3.0	2.5	1.0	1.0	3.5	3.5	2.0	2.0	5.5	5.5
17	7.5	6.0	3.0	3.0	1.0	1.0	3.5	3.5	2.0	2.0	5.5	4.0
18	6.0	5.5	3.0	3.0	1.0	1.0	3.5	3.5	2.0	2.0	4.0	3.0
19	5.5	5.5	3.0	3.0	1.5	1.0	3.5	3.5	2.5	2.0	3.5	3.0
20	5.5	5.0	3.0	3.0	1.5	1.5	3.5	2.5	3.0	2.5	3.5	3.0
21	5.5	5.0	3.0	3.0	2.0	1.5	2.5	2.0	3.0	3.0	3.5	3.0
22	6.0	5.5	3.0	3.0	2.0	2.0	3.0	2.0	3.0	2.5	4.0	3.0
23	6.0	6.0	3.0	3.0	2.0	2.0	3.0	3.0	2.5	2.5	5.0	3.5
24	6.0	6.0	3.0	3.0	2.0	2.0	3.0	3.0	2.5	2.5	5.5	4.5
25	6.0	5.0	3.0	3.0	2.0	2.0	3.0	3.0	2.5	1.5	5.5	5.5
26	6.0	5.0	3.0	3.0	---	---	3.0	3.0	1.5	1.5	6.0	5.0
27	6.5	6.0	3.0	3.0	---	---	3.0	3.0	1.5	1.5	6.0	5.0
28	6.0	6.0	3.0	3.0	---	---	3.0	3.0	3.0	1.5	6.5	5.5
29	6.0	6.0	3.0	2.5	2.0	1.5	3.0	2.5	---	---	7.0	6.5
30	6.0	5.0	2.5	2.5	1.5	1.5	2.5	2.5	---	---	7.0	7.0
31	5.0	5.0	---	---	1.5	1.5	2.5	2.5	---	---	7.0	6.0
MONTH	11.0	5.0	6.0	2.5	2.5	1.0	3.5	1.5	3.0	1.5	7.0	3.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	6.0	7.5	7.5	11.5	11.0	15.0	13.0	14.0	13.5	16.5	15.0
2	6.0	6.0	9.0	7.5	13.5	11.5	15.0	14.0	13.5	13.0	17.0	15.5
3	6.0	6.0	9.0	6.5	13.5	13.0	16.0	14.0	14.5	12.5	17.0	15.5
4	6.0	6.0	8.0	5.5	15.0	12.5	16.0	14.5	14.5	13.0	16.0	15.0
5	6.0	5.0	9.0	6.0	15.0	14.0	16.0	14.5	16.0	14.0	15.0	14.5
6	6.5	5.5	9.0	7.5	14.5	13.5	16.0	14.0	16.0	15.0	15.0	13.5
7	6.5	6.0	8.0	7.5	15.0	13.5	18.5	15.5	16.0	15.0	13.5	12.0
8	6.0	5.0	8.5	7.5	14.5	13.5	18.5	17.0	16.0	15.0	12.5	11.0
9	5.5	3.5	9.5	8.5	15.5	13.5	18.0	15.5	16.0	15.5	12.0	11.0
10	3.5	2.5	11.0	9.0	16.5	13.5	16.5	15.0	16.0	15.0	12.5	11.0
11	4.0	2.5	11.0	9.0	18.0	15.5	16.5	13.5	16.0	14.5	12.5	12.0
12	4.5	3.5	9.0	8.0	18.0	16.0	15.0	13.0	16.0	14.5	12.5	10.5
13	5.0	3.5	8.0	7.0	16.0	13.0	14.5	13.0	15.5	14.0	10.5	10.0
14	6.5	4.0	7.5	5.5	15.0	13.0	15.5	13.5	14.5	14.0	11.5	10.5
15	7.5	6.5	8.5	6.0	16.0	13.5	15.0	13.5	14.5	13.5	12.0	11.5
16	8.5	7.5	8.5	7.5	16.0	14.5	14.5	12.5	14.5	13.5	12.0	11.0
17	8.5	7.0	7.5	7.0	14.5	13.0	15.0	13.0	14.5	13.5	11.0	9.5
18	9.5	7.5	9.5	6.0	14.0	12.5	15.5	13.5	15.0	13.5	9.5	9.0
19	10.0	9.5	10.0	8.5	14.5	14.0	15.5	14.0	15.0	14.0	9.5	9.0
20	11.5	10.0	11.5	8.5	15.0	13.5	15.0	14.0	15.0	14.5	9.5	9.0
21	12.0	11.5	12.0	10.0	15.0	14.0	15.0	13.5	15.0	13.0	9.0	9.0
22	12.5	12.0	12.0	10.0	14.5	13.5	15.0	13.5	14.0	11.5	10.5	9.0
23	12.5	10.0	12.5	11.0	14.5	13.5	15.0	13.5	13.0	12.5	10.5	10.5
24	10.0	8.5	12.5	10.5	15.0	12.5	15.0	14.0	13.0	12.0	10.5	10.0
25	9.5	7.5	12.5	11.5	15.0	13.0	15.5	13.5	13.0	12.5	11.5	10.5
26	8.5	6.5	11.5	11.0	16.0	14.5	15.5	15.0	14.5	13.0	13.5	11.5
27	8.5	7.0	11.0	11.0	16.0	14.5	15.0	14.0	15.5	14.5	13.5	13.5
28	8.0	7.0	11.0	11.0	15.0	13.5	15.0	13.5	16.5	15.0	13.5	11.5
29	7.5	5.5	11.5	11.0	13.5	13.5	14.0	12.0	17.0	15.5	11.5	10.5
30	7.5	7.5	12.0	9.5	13.5	13.0	14.0	13.5	17.0	16.0	10.5	9.5
31	---	---	12.0	10.0	---	---	14.0	14.0	16.0	15.0	---	---
MONTH	12.5	2.5	12.5	5.5	18.0	11.0	18.5	12.0	17.0	11.5	17.0	9.0
YEAR	18.5	1.0										

04128000 STURGEON RIVER NEAR WOLVERINE, MICH.

LOCATION.--Lat 45°17'56", long 84°36'40", in SE¼ NE¼ sec.36, T.34 N., R.3 W., Cheboygan County, temperature recorder at gaging station on left bank, 1.8 mi (2.9 km) north of Wolverine, 2.8 mi (4.5 km) downstream from West Branch, and 9 mi (14 km) upstream from mouth.
DRAINAGE AREA.--170 mi² (440 km²), approximately.
PERIOD OF RECORD.--Water temperatures: October 1958 to September 1973.
EXTREMES.--1971-72:
Water temperatures: Maximum, 20.0°C July 22; minimum, freezing point on many days during December to March.
1972-73:
Water temperatures: Maximum, 21.0°C June 11; minimum, freezing point on many days during December to February.
Period of record:
Water temperatures (1958-73): Maximum, 24.0°C June 30, 1964; minimum, freezing point on many days during winter period.
REMARKS.--Intermittent ice cover during winter period. Intermittent regulation at low flows from ponds, 2.4 mi (3.9 km) upstream.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.0	12.5	10.0	8.0	0.5	0.0	0.5	0.0	0.0	0.0	2.0	1.0
2	15.0	14.0	8.0	7.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0	0.5
3	15.0	13.5	7.0	7.0	0.5	0.0	0.5	0.5	0.0	0.0	0.5	0.0
4	14.5	12.5	7.0	6.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
5	12.5	11.5	6.5	5.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
6	12.0	11.0	6.0	5.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
7	11.0	9.5	5.0	4.0	2.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0
8	9.5	8.5	4.0	2.5	2.0	2.0	0.5	0.0	0.0	0.0	0.0	0.0
9	9.0	8.5	3.5	3.0	2.0	2.0	0.5	0.0	0.5	0.0	0.0	0.0
10	9.0	8.5	4.0	3.0	2.0	2.0	1.0	0.5	1.0	0.5	0.0	0.0
11	8.5	8.5	4.0	4.0	2.0	2.0	1.5	1.0	1.0	0.5	0.5	0.0
12	8.5	8.5	4.5	4.0	2.0	2.0	1.0	0.5	1.5	0.5	1.0	0.5
13	9.0	8.5	4.5	4.0	2.0	2.0	1.0	0.5	1.5	1.5	2.5	1.0
14	9.5	9.0	5.0	4.0	2.0	1.5	0.5	0.0	1.5	1.5	2.5	2.0
15	10.0	9.5	6.0	4.5	1.5	1.5	0.0	0.0	1.5	1.5	3.0	2.0
16	10.0	10.0	6.0	5.5	1.5	1.5	0.0	0.0	1.5	1.5	3.0	3.0
17	10.0	9.5	7.0	6.0	1.5	1.5	0.0	0.0	1.5	1.5	3.5	3.0
18	11.0	10.0	7.5	7.0	1.5	0.5	0.0	0.0	2.5	1.5	3.5	2.5
19	12.5	11.0	7.5	6.5	0.5	0.5	0.5	0.0	2.5	1.5	3.5	2.0
20	13.0	12.5	6.5	5.5	0.5	0.5	0.5	0.5	1.5	1.0	4.0	2.5
21	13.0	12.0	5.5	3.0	0.5	0.5	0.5	0.5	1.0	0.5	5.5	4.0
22	12.5	12.5	3.0	1.5	0.5	0.5	1.0	0.5	0.5	0.0	5.5	3.0
23	12.5	11.5	1.5	0.5	0.5	0.5	1.0	1.0	0.0	0.0	3.0	2.0
24	11.5	11.5	0.5	0.5	1.0	0.5	1.0	0.5	0.0	0.0	3.0	2.0
25	11.5	11.0	0.5	0.5	1.0	0.5	0.5	0.0	0.0	0.0	3.5	2.0
26	11.5	11.0	1.0	0.5	1.0	0.5	0.0	0.0	0.5	0.0	3.0	2.0
27	12.5	11.5	1.0	1.0	1.0	0.5	0.0	0.0	1.0	0.5	4.0	2.0
28	12.5	11.5	1.0	1.0	0.5	0.5	0.0	0.0	1.5	1.0	5.0	3.0
29	11.5	10.0	1.5	1.0	0.5	0.5	0.0	0.0	2.0	1.5	5.0	3.5
30	10.0	10.0	1.0	0.5	0.5	0.5	0.0	0.0	---	---	4.0	4.0
31	10.0	10.0	---	---	0.5	0.5	0.0	0.0	---	---	6.0	4.0
MONTH	15.0	8.5	10.0	0.5	2.0	0.0	1.5	0.0	2.5	0.0	6.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.5	4.5	9.5	8.5	14.5	11.0	17.5	14.5	16.0	14.0	15.5	14.0
2	6.0	4.5	8.5	8.5	16.0	12.0	17.5	14.0	15.5	14.0	14.0	12.5
3	6.0	4.5	8.5	8.0	17.0	13.0	16.5	13.5	14.5	13.0	12.5	11.0
4	5.5	4.0	10.0	7.0	17.0	14.0	14.5	12.5	14.0	12.0	11.5	11.0
5	4.5	3.5	12.0	9.0	16.0	13.0	14.5	12.5	14.0	12.0	12.0	11.0
6	4.5	3.5	11.5	10.0	17.5	14.0	15.0	12.5	14.0	12.0	12.0	11.0
7	4.5	3.5	11.0	8.5	17.0	13.5	15.0	13.5	12.0	11.5	12.5	12.0
8	5.0	3.5	11.5	8.5	16.5	14.5	15.0	12.5	11.5	10.0	13.0	12.0
9	5.5	3.5	10.5	8.5	15.0	13.0	15.0	13.0	11.0	10.0	12.5	11.0
10	6.5	5.0	12.0	8.5	13.5	11.5	15.5	13.0	12.5	10.5	11.5	11.0
11	6.5	5.5	14.0	9.5	13.0	11.5	15.5	13.5	12.5	11.5	11.0	11.0
12	6.5	5.5	14.0	10.0	12.0	11.5	17.5	14.5	15.0	11.5	11.0	10.5
13	6.0	4.5	13.5	11.0	14.5	11.5	17.5	15.0	15.5	13.5	11.5	11.0
14	6.0	4.0	12.5	11.5	17.0	14.0	17.0	14.5	15.5	13.5	12.0	10.5
15	5.5	5.0	11.5	11.0	17.0	15.0	17.0	14.5	14.0	11.5	11.5	10.5
16	5.5	5.0	13.5	11.0	15.5	13.0	17.0	14.5	14.0	12.0	11.5	10.5
17	6.5	4.5	15.5	11.5	15.0	11.5	16.5	14.0	13.5	12.0	13.0	11.5
18	6.0	5.5	17.0	13.0	16.0	12.0	16.5	15.0	15.0	13.5	12.5	11.5
19	6.0	5.5	17.5	13.5	16.5	13.0	16.5	14.0	15.5	13.5	12.5	11.0
20	7.5	4.0	18.5	14.0	16.5	14.5	18.5	16.0	15.5	13.0	12.5	10.5
21	7.0	5.0	18.5	14.5	14.5	12.5	19.5	18.0	16.5	14.5	12.0	11.0
22	6.0	5.0	18.0	14.0	12.5	11.5	20.0	18.0	17.0	15.5	11.0	10.0
23	5.0	4.5	18.0	13.5	12.0	11.5	19.5	18.5	17.0	15.5	10.0	9.0
24	7.0	4.5	18.0	14.0	12.0	11.0	19.0	17.0	16.0	15.0	9.5	9.0
25	7.5	5.0	18.0	14.5	14.0	11.5	18.0	14.5	16.0	14.5	10.5	9.5
26	8.5	6.0	17.5	14.0	14.5	13.5	14.5	12.5	16.0	14.5	11.0	10.5
27	9.0	6.5	18.0	14.0	16.5	12.5	14.0	12.0	14.5	14.0	10.5	8.5
28	10.0	7.5	18.0	14.5	16.5	13.5	15.0	12.0	15.5	13.0	9.5	8.0
29	11.0	8.0	17.5	14.5	16.0	14.0	15.0	13.0	15.0	13.0	10.0	9.0
30	10.5	9.0	16.0	12.5	17.0	14.0	16.5	13.0	15.5	13.0	9.5	8.5
31	---	---	12.5	11.5	---	---	16.0	14.0	16.0	14.0	---	---
MONTH	11.0	3.5	18.5	7.0	17.5	11.0	20.0	12.0	17.0	10.0	15.5	8.0
YEAR	20.0	0.0										

STREAMS TRIBUTARY TO LAKE HURON

04128000 STURGEON RIVER NEAR WOLVERINE, MICH.-Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.5	8.0	5.0	5.0	0.5	0.5	0.0	0.0	0.0	0.0	1.5	1.0
2	9.0	8.0	5.0	5.0	0.5	0.0	0.0	0.0	1.0	0.0	2.0	1.5
3	9.0	8.5	5.0	5.0	0.0	0.0	0.0	0.0	1.0	1.0	2.0	2.0
4	9.5	8.5	5.0	5.0	0.0	0.0	0.5	0.0	1.0	1.0	3.0	2.0
5	9.5	8.5	5.0	5.0	0.0	0.0	0.5	0.0	1.0	0.5	3.0	2.5
6	9.5	8.5	5.0	5.0	0.0	0.0	0.0	0.0	1.0	0.5	3.5	2.5
7	9.5	7.5	5.0	5.0	0.0	0.0	0.0	0.0	1.0	1.0	4.0	3.5
8	7.5	7.0	5.0	5.0	0.0	0.0	0.0	0.0	1.0	0.0	4.0	3.0
9	7.0	5.5	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	2.0
10	5.5	5.0	5.0	5.0	0.0	0.0	0.0	0.0	0.5	0.0	3.5	2.5
11	6.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0	0.5	0.5	4.5	3.0
12	5.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0	0.5	0.5	4.5	4.5
13	5.0	5.0	5.0	4.5	0.0	0.0	0.0	0.0	0.5	0.5	4.5	3.5
14	5.0	5.0	4.5	3.5	0.0	0.0	0.0	0.0	0.5	0.5	3.5	3.5
15	5.0	4.5	3.5	3.0	0.0	0.0	0.0	0.0	0.5	0.5	4.0	3.5
16	4.5	4.5	3.0	3.0	0.0	0.0	1.0	0.0	0.5	0.5	4.0	3.0
17	4.5	4.0	3.0	3.0	0.0	0.0	1.5	1.0	0.5	0.5	3.0	2.0
18	4.0	4.0	3.0	2.5	0.0	0.0	2.0	1.5	0.5	0.5	2.0	1.5
19	4.0	4.0	2.5	2.5	0.0	0.0	2.0	0.5	0.5	0.5	3.5	1.5
20	4.0	4.0	2.5	2.5	0.0	0.0	1.0	0.5	0.5	0.5	3.5	2.0
21	4.0	4.0	2.5	2.5	0.5	0.0	0.5	0.0	0.5	0.5	3.0	2.0
22	4.0	4.0	2.5	2.0	1.0	0.5	0.5	0.0	0.5	0.5	3.5	1.5
23	4.5	4.0	2.0	2.0	1.0	1.0	1.0	0.5	1.0	0.5	4.0	2.0
24	4.5	4.5	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	4.0	3.0
25	4.5	4.0	2.0	2.0	1.0	1.0	1.5	1.0	1.0	0.5	4.0	4.0
26	4.5	4.0	2.0	2.0	1.0	1.0	1.5	1.5	0.5	0.0	5.0	3.5
27	5.5	4.5	2.0	1.5	1.0	1.0	1.5	1.5	0.0	0.0	6.0	3.0
28	5.5	5.5	1.5	1.0	1.0	0.5	1.5	1.0	1.0	0.0	6.5	4.5
29	5.5	5.0	1.0	1.0	0.5	0.0	1.0	0.5	---	---	8.0	6.5
30	5.5	5.0	1.0	0.5	0.0	0.0	0.5	0.5	---	---	8.0	7.5
31	5.0	5.0	---	---	0.0	0.0	0.5	0.0	---	---	7.5	6.0
MONTH	9.5	4.0	5.0	0.5	1.0	0.0	2.0	0.0	1.0	0.0	8.0	1.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	6.0	9.0	9.0	14.5	12.5	17.5	13.5	15.5	15.0	19.0	17.0
2	6.5	6.0	11.0	9.0	16.0	12.5	17.5	15.0	15.0	14.5	19.5	17.0
3	6.5	6.0	11.0	9.0	16.0	13.5	18.5	15.5	17.0	14.0	19.0	17.5
4	6.0	5.5	10.5	8.5	17.5	13.0	18.5	16.0	17.0	14.0	19.0	17.0
5	6.5	4.5	12.0	8.5	17.0	15.0	18.0	15.5	18.0	15.0	18.0	16.5
6	8.5	6.0	11.0	8.5	17.0	14.5	18.0	15.0	18.5	16.5	17.5	15.0
7	8.5	7.5	10.5	9.0	17.0	14.5	20.0	16.0	18.5	16.5	15.0	14.0
8	7.5	6.0	11.0	10.0	17.0	14.5	20.5	17.5	18.0	16.0	14.5	13.5
9	7.0	4.0	12.0	10.5	18.0	15.0	20.0	16.0	18.5	17.0	13.5	13.0
10	4.5	4.0	13.5	10.5	19.0	15.0	18.5	16.0	18.5	16.5	14.0	13.0
11	5.5	4.0	13.0	11.0	21.0	17.0	18.0	15.0	18.5	16.5	14.0	13.0
12	6.5	4.5	11.0	9.5	20.0	18.0	16.5	14.0	19.0	15.5	13.5	12.5
13	7.0	4.5	10.5	9.0	18.5	15.0	16.0	13.0	18.0	15.0	12.5	12.0
14	8.0	5.0	11.5	9.5	18.0	14.5	17.0	14.0	17.0	16.0	13.0	12.0
15	9.0	7.0	12.0	8.5	19.5	15.5	17.0	14.0	17.0	15.0	13.0	12.0
16	9.5	9.0	12.0	9.5	19.0	15.5	16.5	14.0	17.0	14.5	12.0	11.5
17	11.0	8.5	9.5	9.0	15.5	13.5	17.0	14.0	17.0	15.0	11.5	10.5
18	12.0	9.5	11.5	8.5	16.5	13.0	17.5	14.5	17.0	15.0	10.5	9.5
19	12.0	10.0	13.5	9.0	16.5	15.0	17.5	15.0	17.5	15.0	10.0	9.5
20	13.5	10.5	14.0	10.0	17.0	14.5	17.5	15.0	17.5	16.0	10.0	9.5
21	14.5	12.5	14.5	10.5	16.5	14.5	17.5	15.0	16.5	14.0	9.5	9.5
22	15.5	13.5	15.0	11.0	17.0	14.5	16.5	14.0	16.0	14.0	10.0	9.5
23	14.0	11.5	14.5	11.5	17.0	14.5	16.5	14.0	15.0	14.0	10.5	10.0
24	13.0	10.5	15.0	11.0	17.0	13.5	16.0	14.0	15.5	13.5	11.5	10.0
25	12.0	10.0	14.5	12.0	17.0	14.0	18.0	15.0	15.5	14.0	12.0	11.0
26	12.0	9.5	12.5	12.0	18.0	15.5	18.0	16.0	17.0	15.0	14.0	12.0
27	12.0	9.5	12.5	12.0	18.0	16.0	17.0	15.5	18.5	16.0	14.0	14.0
28	11.0	9.5	12.5	11.5	17.5	15.0	17.0	15.5	20.0	17.5	14.0	11.5
29	10.5	9.5	13.5	11.5	15.0	14.0	15.0	13.5	20.5	18.0	12.0	11.0
30	10.5	9.0	14.5	11.0	14.0	13.5	16.0	15.0	20.0	18.0	11.5	10.0
31	---	---	14.5	11.0	---	---	16.0	15.5	19.0	17.0	---	---
MONTH	15.5	4.0	15.0	8.5	21.0	12.5	20.5	13.0	20.5	13.5	19.5	9.5
YEAR	21.0	0.0										

04135500 AU SABLE RIVER AT GRAYLING, MICH.

LOCATION.--Lat 44°39'35", long 84°42'45", in SE¼ SE¼ sec.7, T.26 N., R.3 W., Crawford County, temperature recorder at gaging station on right bank, 65 ft (20 m) upstream from bridge on Interstate Highway 75 (Business Loop) at Grayling, 0.7 mi (1.1 km) upstream from East Branch, and 114 mi (183 km) upstream from mouth.
DRAINAGE AREA.--110 mi² (285 km²).
PERIOD OF RECORD.--Water temperatures: March 1953 to September 1973.
EXTREMES.--1971-72:
Water temperatures: Maximum, 25.5°C July 22, 23; minimum, freezing point on many days during December to March.
1972-73:
Water temperatures: Maximum, 23.5°C Aug. 29, 30, Sept. 1-4; minimum, 0.5°C on many days during December to March.
Period of record:
Water temperatures (1953-73); Maximum, 28.0°C July 1, 2, 1963; minimum freezing point on many days during winter period.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	16.0	10.0	8.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
2	19.0	17.5	8.0	8.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
3	19.0	17.5	8.0	6.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
4	19.0	16.5	6.5	4.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
5	17.0	15.0	6.0	4.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
6	15.0	13.0	6.0	4.5	0.5	0.5	0.0	0.0	0.5	0.0	0.0	0.0
7	13.0	11.0	4.5	2.0	0.5	0.5	0.0	0.0	0.5	0.0	0.0	0.0
8	11.5	10.5	2.0	2.0	1.5	0.5	0.0	0.0	0.5	0.0	0.0	0.0
9	10.5	10.5	2.0	1.5	1.5	1.5	0.0	0.0	0.5	0.0	0.0	0.0
10	10.5	9.5	2.5	1.5	2.5	1.5	0.0	0.0	0.5	0.0	0.0	0.0
11	10.0	10.0	3.0	2.0	3.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
12	10.0	9.5	3.5	3.0	3.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
13	10.5	10.0	3.5	3.0	2.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
14	10.5	10.0	4.0	3.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
15	12.0	10.0	4.5	4.0	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
16	12.0	11.0	5.5	4.5	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
17	12.0	10.5	7.0	5.5	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
18	12.5	11.0	7.0	7.0	3.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
19	15.0	12.5	7.0	6.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
20	15.5	14.5	6.0	4.5	0.5	0.5	0.0	0.0	0.0	0.0	0.5	0.0
21	15.5	14.0	4.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.5	0.5
22	15.5	15.0	1.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	1.5	1.0
23	15.0	13.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	0.5
24	13.0	12.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	1.5	0.0
25	12.5	12.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.5
26	13.0	12.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.5
27	14.0	13.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.5
28	13.5	11.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	4.0	1.5
29	12.0	11.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	4.0	2.5
30	12.0	11.0	0.5	0.5	0.0	0.0	0.0	0.0	---	---	3.0	2.0
31	11.0	10.0	---	---	0.0	0.0	0.0	0.0	---	---	4.0	1.0
MONTH	19.0	9.5	10.0	0.5	3.0	0.0	0.0	0.0	0.5	0.0	4.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	3.0	13.5	11.0	15.5	11.0	22.0	21.0	22.0	20.0	20.5	14.5
2	4.0	3.5	11.0	10.0	19.0	14.0	22.0	20.5	22.0	20.5	19.5	16.5
3	4.0	3.5	10.0	9.5	20.5	17.0	22.0	19.0	20.5	19.0	16.5	14.5
4	4.5	3.0	9.5	9.0	20.5	19.0	20.0	18.0	19.5	16.5	16.0	14.5
5	4.5	2.5	15.0	9.5	20.5	17.0	19.5	16.5	20.0	17.0	16.0	14.5
6	5.0	3.5	13.0	11.0	20.5	19.0	20.0	16.5	20.0	18.5	16.5	14.5
7	3.5	2.5	11.0	10.0	20.5	18.0	20.0	18.5	18.5	16.0	16.5	16.0
8	5.0	3.0	14.0	10.0	20.5	18.5	20.0	17.0	16.0	14.0	17.0	16.0
9	6.0	3.0	14.0	10.0	19.5	17.0	20.0	18.0	15.5	13.5	16.5	14.5
10	8.0	5.0	14.0	9.5	17.0	13.5	21.5	19.0	18.0	14.0	14.5	14.5
11	9.0	6.5	16.0	11.0	16.5	13.5	22.0	20.0	18.0	16.0	15.0	14.0
12	9.0	7.5	16.0	11.5	15.0	13.5	23.0	21.5	19.5	16.0	16.5	14.5
13	8.0	5.5	16.0	14.5	16.0	13.5	23.0	21.5	21.0	18.5	16.5	16.0
14	6.0	4.5	14.5	14.0	19.5	15.5	23.0	21.5	21.0	20.5	16.5	16.0
15	8.0	6.0	14.5	14.0	20.0	19.0	22.0	21.0	20.5	18.5	17.0	15.0
16	8.0	8.0	14.5	13.5	20.0	16.5	22.0	20.5	20.5	18.0	16.5	15.0
17	8.0	7.0	17.0	13.5	19.0	15.0	22.0	20.0	20.0	18.5	18.0	16.5
18	8.0	8.0	19.0	15.5	20.0	16.0	21.0	20.0	22.0	19.5	17.0	16.0
19	8.0	8.0	19.5	17.0	20.5	17.0	21.5	20.0	23.5	20.0	17.0	16.0
20	8.0	8.0	20.5	18.5	20.5	19.0	23.5	21.0	23.5	20.5	16.0	14.5
21	8.5	8.0	21.0	19.0	19.0	15.5	24.5	23.0	23.5	20.5	16.0	14.5
22	8.5	8.5	21.0	19.0	15.5	14.0	25.5	24.0	23.0	21.0	14.5	11.5
23	8.5	8.0	21.0	18.5	15.0	13.0	25.5	24.5	22.0	21.0	13.5	11.0
24	8.0	8.0	21.0	18.5	13.0	12.0	24.5	23.0	22.0	21.0	13.5	11.5
25	8.5	8.0	21.0	19.5	17.0	13.0	24.0	20.5	21.0	19.5	14.0	13.5
26	9.0	8.5	21.0	18.5	18.0	16.5	20.5	18.0	21.0	19.0	15.0	14.0
27	9.5	9.0	21.0	18.5	21.5	16.5	19.0	16.5	19.0	18.0	15.0	13.0
28	10.5	9.5	21.0	18.5	21.5	19.5	20.0	17.0	19.0	16.5	14.0	11.5
29	13.0	10.5	21.0	19.0	21.5	20.0	21.5	19.0	19.5	18.0	12.0	12.0
30	13.5	11.0	20.5	15.0	22.0	19.5	21.5	20.5	20.5	18.0	12.0	11.0
31	---	---	15.0	12.0	---	---	21.0	20.0	20.5	19.5	---	---
MONTH	13.5	2.5	21.0	9.0	22.0	11.0	25.5	16.5	23.5	13.5	20.5	11.0
YEAR	25.5	0.0										

04135500 AU SABLE RIVER AT GRAYLING, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.5	9.5	4.5	4.0	1.0	1.0	2.0	0.5	1.0	1.0	0.5	0.5
2	10.5	9.0	5.0	4.5	1.0	1.0	0.5	0.5	1.0	0.5	1.0	0.5
3	11.5	10.5	5.0	5.0	1.0	1.0	0.5	0.5	0.5	0.5	1.0	0.5
4	13.0	11.0	5.0	4.5	1.0	1.0	1.0	0.5	0.5	0.5	3.0	0.5
5	13.0	11.5	4.5	4.5	1.0	1.0	1.0	1.0	0.5	0.5	3.0	2.0
6	12.0	11.0	5.5	4.5	1.0	0.5	1.0	1.0	0.5	0.5	4.5	2.0
7	11.0	9.5	5.5	5.5	0.5	0.5	1.0	1.0	0.5	0.5	6.0	4.0
8	10.0	9.0	5.5	5.5	0.5	0.5	1.0	1.0	0.5	0.5	6.0	5.5
9	9.0	6.0	5.5	4.5	0.5	0.5	1.0	1.0	0.5	0.5	5.5	5.5
10	6.5	5.5	4.5	4.5	0.5	0.5	1.0	1.0	0.5	0.5	5.5	5.5
11	8.0	6.5	4.5	4.5	0.5	0.5	1.0	1.0	0.5	0.5	7.0	5.5
12	8.0	8.0	4.5	4.5	0.5	0.5	1.0	1.0	0.5	0.5	7.0	7.0
13	8.0	6.5	4.5	3.5	0.5	0.5	1.0	1.0	0.5	0.5	7.0	7.0
14	8.0	7.0	3.5	1.5	0.5	0.5	1.5	1.0	0.5	0.5	7.0	6.5
15	7.0	5.5	1.5	1.0	0.5	0.5	1.5	1.5	0.5	0.5	6.5	6.5
16	7.0	5.5	1.5	1.5	0.5	0.5	1.5	1.5	1.0	0.5	6.5	5.5
17	7.0	5.0	1.5	1.5	0.5	0.5	1.5	1.5	0.5	0.5	5.5	1.5
18	5.0	4.0	1.5	1.5	0.5	0.5	1.5	1.5	0.5	0.5	1.5	1.0
19	4.0	3.5	3.0	1.5	0.5	0.5	1.5	1.0	0.5	0.5	3.0	0.5
20	4.5	2.0	3.0	3.0	0.5	0.5	1.0	1.0	0.5	0.5	4.5	2.0
21	4.5	4.0	3.0	3.0	0.5	0.5	1.0	1.0	0.5	0.5	5.5	3.0
22	4.5	4.0	3.0	2.0	0.5	0.5	1.0	1.0	0.5	0.5	6.5	3.5
23	4.5	4.5	2.0	1.5	0.5	0.5	1.0	1.0	0.5	0.5	7.0	4.0
24	5.5	4.5	2.0	1.5	0.5	0.5	1.0	0.5	0.5	0.5	7.0	5.5
25	5.5	4.5	2.0	1.5	0.5	0.5	0.5	0.5	0.5	0.5	7.0	6.5
26	5.0	4.0	2.0	2.0	0.5	0.5	1.0	0.5	0.5	0.5	6.5	5.5
27	6.0	5.0	2.0	2.0	0.5	0.5	1.0	1.0	0.5	0.5	8.5	5.5
28	6.5	6.0	2.0	1.5	0.5	0.5	1.0	1.0	0.5	0.5	8.5	6.0
29	6.5	5.5	1.5	1.0	0.5	0.5	1.0	1.0	---	---	10.0	8.0
30	5.5	4.5	1.0	1.0	0.5	0.5	1.0	1.0	---	---	10.0	9.0
31	4.5	4.0	---	---	0.5	0.5	1.0	1.0	---	---	9.0	7.0
MONTH	13.0	2.0	5.5	1.0	1.0	0.5	2.0	0.5	1.0	0.5	10.0	0.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.0	6.0	9.0	8.5	16.0	14.5	19.0	14.5	19.0	18.5	23.5	22.0
2	6.0	5.5	11.5	9.0	18.0	15.0	20.5	17.0	18.5	17.0	23.5	22.5
3	6.0	5.5	11.5	8.5	18.0	15.5	21.0	19.0	18.5	15.5	23.5	22.5
4	5.5	4.5	10.0	6.5	18.5	15.0	21.0	19.5	21.0	17.0	23.5	21.5
5	5.5	3.5	11.5	8.0	18.5	17.0	21.0	19.5	20.5	19.0	21.5	20.0
6	8.5	5.5	11.5	9.5	18.5	17.0	21.0	19.0	21.0	20.0	20.5	18.5
7	8.5	6.0	10.0	9.5	18.5	16.0	23.0	20.0	21.0	20.0	18.5	17.0
8	6.0	4.0	11.0	10.0	18.5	16.0	23.0	21.0	21.5	20.0	17.0	15.0
9	6.0	2.0	13.0	10.5	20.0	17.0	23.0	20.5	21.5	20.5	17.0	15.0
10	2.0	0.5	13.0	11.0	21.0	18.0	22.0	20.5	21.5	20.5	17.0	15.0
11	3.5	0.5	13.0	11.0	23.0	20.0	22.0	19.0	21.5	20.5	17.0	16.0
12	5.0	1.5	11.0	10.0	23.0	21.0	20.0	17.0	20.5	19.5	16.0	15.0
13	6.0	3.0	10.0	8.5	22.0	18.5	19.0	16.5	20.0	18.5	15.0	13.5
14	9.0	5.5	11.0	8.0	21.0	17.0	20.0	18.5	20.0	19.5	15.5	14.0
15	9.5	6.5	13.0	9.0	21.5	18.5	20.0	18.5	20.0	19.0	15.5	15.0
16	9.5	9.0	13.0	9.5	21.5	20.5	19.5	18.0	21.0	19.0	15.0	13.5
17	10.0	7.0	9.5	8.0	20.5	16.0	19.5	18.0	20.5	19.5	13.5	11.0
18	12.0	8.5	12.0	7.0	17.0	14.5	20.0	18.5	20.5	19.0	12.0	10.0
19	12.0	10.5	13.0	10.0	18.5	16.0	20.0	19.5	20.5	19.5	12.0	11.0
20	14.5	11.0	15.0	10.5	19.5	17.0	20.0	19.5	20.5	19.5	12.0	10.5
21	15.0	13.5	16.5	13.0	19.5	17.0	20.0	19.0	19.5	16.5	12.0	10.5
22	15.0	14.5	17.0	14.0	19.0	17.0	20.0	18.5	18.0	15.5	12.5	10.5
23	15.0	12.0	17.0	14.5	18.5	16.5	20.0	18.5	18.0	16.0	12.5	12.0
24	14.5	10.5	17.0	15.0	20.0	16.0	20.5	19.0	17.5	15.5	12.5	11.5
25	13.5	10.0	17.0	15.0	20.5	17.0	21.5	19.5	18.5	17.0	13.0	11.5
26	13.0	9.5	15.0	14.0	21.0	18.5	21.5	20.5	20.0	18.5	16.0	13.0
27	13.0	9.5	15.0	14.0	21.0	19.0	20.5	19.5	22.0	20.0	16.0	14.0
28	11.0	9.0	15.0	13.0	20.0	18.0	19.5	19.0	23.0	21.5	14.0	13.5
29	11.5	6.5	15.0	10.0	18.0	15.5	19.0	16.5	23.5	22.0	14.0	12.5
30	11.5	9.0	17.0	13.0	15.5	14.5	19.0	18.0	23.5	22.5	13.5	11.0
31	---	---	17.0	14.0	---	---	19.0	19.0	23.0	22.0	---	---
MONTH	15.0	0.5	17.0	6.5	23.0	14.5	23.0	14.5	23.5	15.5	23.5	10.0
YEAR	23.5	0.5										

04135700 SOUTH BRANCH AU SABLE RIVER NEAR LUZERNE, MICH.

LOCATION.--Lat 44°36'53", long 84°27'20", in SW¼ SW¼ sec.29, T.26 N., R.1 W., Crawford County, temperature recorder at gaging station on right bank 10 ft (3 m) upstream from Smith Bridge, 400 ft (122 m) downstream from highway bridge on State Highway 72, 4.6 mi (7.4 km) upstream from mouth, 9.1 mi (14.6 km) west of Luzerne.

DRAINAGE AREA.--401 mi² (1,039 km²).

PERIOD OF RECORD.--Water temperatures: November 1966 to September 1973.

EXTREMES.--1971-72:
Water temperatures: Maximum, 23.5°C July 22; minimum, freezing point on many days during December to March.
1972-73
Water temperatures: Maximum, 22.0°C June 11, 12, July 7, 8; minimum, freezing point on many days during December to March.
Period of record:
Water temperatures (1966-73): Maximum, 24.0°C July 16, 1968; minimum, freezing point on many days during winter period.

REMARKS.--Intermittent ice cover during the winter period. No temperature record July 23-Aug. 3, 1973; pen not marking.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.0	11.5	8.0	6.0	1.0	0.0	1.5	0.5	0.0	0.0	2.0	0.0
2	14.0	12.5	7.5	6.5	1.0	0.0	1.5	1.0	0.5	0.0	0.0	0.0
3	14.0	12.0	7.0	6.0	1.0	1.0	1.0	0.5	0.5	0.5	0.5	0.0
4	14.0	11.5	6.0	5.0	1.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0
5	12.5	10.0	6.0	5.0	1.5	1.0	0.5	0.5	0.0	0.0	0.5	0.0
6	11.0	9.5	6.5	4.5	2.0	1.5	0.5	0.5	0.0	0.0	0.0	0.0
7	9.5	8.5	4.5	3.0	2.0	2.0	1.0	0.5	0.0	0.0	1.5	0.0
8	9.0	7.5	3.5	2.5	2.5	2.0	1.0	0.5	0.0	0.0	1.5	0.0
9	9.0	8.5	3.5	3.0	2.5	2.0	1.5	0.5	0.0	0.0	0.5	0.0
10	9.0	7.5	4.5	3.5	2.5	2.5	1.5	0.5	0.0	0.0	0.5	0.0
11	8.5	7.5	4.5	4.0	2.5	1.5	1.0	1.0	0.0	0.0	2.5	0.5
12	8.5	7.5	5.0	4.5	1.5	1.0	1.0	0.5	1.0	0.0	3.0	1.5
13	9.5	8.0	5.0	4.5	1.0	0.5	1.0	0.5	1.5	1.0	3.0	0.0
14	10.0	8.5	5.0	4.5	0.5	0.0	0.5	0.5	1.5	1.0	1.0	0.0
15	10.5	8.5	5.5	5.0	1.0	0.5	0.5	0.5	1.5	1.0	2.0	1.0
16	10.0	9.0	6.5	5.5	1.0	0.5	0.5	0.0	1.0	0.5	2.0	1.5
17	10.5	9.0	7.0	6.0	0.5	0.0	0.0	0.0	1.5	0.5	2.0	2.0
18	10.5	10.0	7.5	6.5	0.0	0.0	0.0	0.0	1.5	1.5	3.0	1.0
19	11.5	10.0	7.5	5.5	0.5	0.0	0.0	0.0	1.5	0.0	2.5	1.0
20	12.0	10.5	5.5	5.0	1.0	0.5	0.5	0.0	0.0	0.0	4.5	2.5
21	11.5	10.0	5.0	3.0	1.0	0.5	0.5	0.0	0.5	0.0	4.5	3.5
22	11.5	11.0	3.0	1.0	0.5	0.0	1.5	0.5	0.5	0.0	4.5	1.5
23	11.5	10.0	1.0	1.0	1.0	0.0	1.5	1.0	0.5	0.0	2.5	1.0
24	10.5	10.0	2.0	1.0	1.5	1.0	1.0	1.0	1.5	0.5	3.0	0.5
25	10.0	9.5	2.0	2.0	1.0	1.0	1.0	0.5	1.0	0.5	3.0	1.0
26	10.0	9.5	2.5	2.0	1.0	1.0	0.5	0.5	1.5	0.5	3.0	1.0
27	11.0	10.0	2.5	2.0	1.0	1.0	0.5	0.0	1.0	0.5	3.5	1.0
28	11.0	9.0	2.5	2.0	1.0	1.0	0.0	0.0	1.5	1.0	4.0	2.0
29	10.0	8.5	2.5	2.0	1.0	0.5	0.0	0.0	1.5	1.0	3.5	2.0
30	9.5	9.0	2.0	1.0	1.0	0.5	0.0	0.0	2.0	1.5	3.5	2.5
31	9.0	8.0	---	---	0.5	0.5	0.0	0.0	---	---	2.5	2.0
									---	---	3.5	2.0
MONTH	14.0	7.5	8.0	1.0	2.5	0.0	1.5	0.0	2.0	0.0	4.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.5	2.5	11.0	10.5	13.0	9.5	18.0	15.5	19.5	15.0	18.0	16.0
2	3.5	2.5	10.5	10.0	15.5	11.0	19.5	16.0	19.0	15.5	16.0	14.0
3	3.5	3.0	10.0	9.0	16.5	12.5	18.0	14.0	17.5	14.5	14.0	11.5
4	4.0	2.5	10.0	8.0	17.5	13.5	16.5	13.5	17.0	12.5	13.5	11.5
5	4.5	2.0	11.5	9.5	17.5	13.0	16.0	12.5	17.0	12.5	13.5	11.5
6	4.0	2.5	11.5	11.0	18.5	14.5	17.5	12.5	16.5	14.0	14.5	12.5
7	3.5	1.5	11.0	10.0	18.0	13.5	17.5	14.0	14.0	12.5	14.5	13.5
8	4.5	1.5	11.0	9.5	17.0	14.5	17.0	13.0	12.5	11.0	15.5	13.0
9	5.0	2.0	10.5	10.0	16.5	14.0	16.5	14.0	13.5	11.0	14.0	11.0
10	6.5	4.0	11.5	9.0	15.0	11.0	19.5	14.5	14.5	10.5	13.5	10.5
11	7.0	5.0	13.5	10.0	14.0	10.5	20.0	16.0	14.0	12.5	12.0	11.0
12	6.5	5.0	14.0	11.0	12.5	11.5	20.5	17.0	18.0	13.0	14.0	11.0
13	5.0	3.5	13.5	12.5	13.5	11.5	20.0	17.5	19.5	15.0	14.0	13.0
14	4.0	2.5	13.5	12.5	16.0	12.5	19.0	17.0	19.0	16.5	15.0	12.5
15	3.5	2.5	13.0	12.0	17.5	15.0	20.5	17.5	18.0	14.0	14.0	11.0
16	3.5	2.5	13.0	12.0	16.5	13.5	20.0	16.5	17.0	14.5	14.0	11.5
17	4.0	2.0	16.0	12.5	16.0	11.0	18.5	16.0	17.0	14.5	16.0	13.5
18	5.0	4.0	17.0	14.0	17.0	12.0	18.5	17.0	19.5	16.0	15.5	13.5
19	5.0	5.0	18.0	15.0	18.0	12.5	19.0	16.5	20.0	16.0	15.0	13.5
20	6.0	4.5	19.0	15.5	18.0	15.5	21.5	17.5	19.0	16.0	15.5	12.5
21	6.0	5.5	19.5	16.0	15.5	13.0	21.5	19.0	19.0	16.5	14.5	12.5
22	6.0	5.5	19.0	15.5	13.5	12.0	23.5	19.0	19.5	17.5	12.5	10.0
23	6.0	5.5	19.0	15.0	13.0	11.0	22.5	20.0	19.5	17.5	11.5	9.5
24	5.5	5.0	19.0	15.0	11.5	11.0	21.0	17.5	18.0	17.0	12.0	11.0
25	6.5	5.0	19.0	15.5	14.0	11.5	20.0	16.0	19.5	16.0	12.5	11.5
26	8.5	6.5	18.5	14.5	15.0	13.5	16.0	13.5	18.5	16.5	14.0	12.5
27	10.0	8.0	18.0	14.0	18.0	13.0	16.5	12.5	16.5	15.5	13.0	11.0
28	11.0	9.5	18.0	14.0	19.0	14.5	17.5	12.5	17.5	14.5	11.5	10.0
29	12.0	10.0	17.5	14.0	18.0	15.5	17.5	14.0	17.0	14.5	11.5	11.0
30	11.5	11.0	16.5	12.0	19.0	14.5	18.0	14.5	17.5	14.5	11.0	10.0
31	---	---	12.0	10.0	---	---	18.0	14.5	18.0	15.5	---	---
MONTH	12.0	1.5	19.5	8.0	19.0	9.5	23.5	12.5	20.0	10.5	18.0	9.5
YEAR	23.5	0.0										

04135700 SOUTH BRANCH AU SABLE RIVER NEAR LUZERNE, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.5	9.5	4.5	4.5	1.5	1.5	1.0	0.0	1.0	0.5	2.5	2.5
2	10.5	9.0	5.5	4.5	1.5	1.0	0.0	0.0	1.5	1.0	2.5	2.5
3	11.0	10.0	5.5	5.5	1.0	1.0	0.0	0.0	1.5	1.0	3.0	2.5
4	12.0	10.5	5.5	5.0	1.0	0.5	0.5	0.0	1.5	1.0	3.5	2.5
5	12.0	11.0	5.0	5.0	1.0	0.5	0.5	0.0	1.5	1.0	3.0	2.0
6	11.5	10.5	5.0	4.5	1.0	0.5	0.0	0.0	1.0	1.0	3.0	2.0
7	10.5	9.5	5.0	5.0	0.5	0.5	0.0	0.0	1.0	1.0	3.0	2.5
8	10.0	9.0	5.0	5.0	0.5	0.5	0.0	0.0	1.0	0.5	3.0	1.5
9	9.0	8.0	5.0	4.5	1.0	0.5	0.0	0.0	0.5	0.5	1.5	1.0
10	8.5	7.0	4.5	4.5	1.0	0.5	0.0	0.0	0.5	0.5	2.0	1.5
11	8.5	7.5	4.5	4.5	0.5	0.5	0.0	0.0	0.5	0.5	3.0	2.0
12	9.0	8.5	4.5	4.5	0.5	0.5	0.0	0.0	0.5	0.5	3.0	3.0
13	8.5	7.0	4.5	3.5	0.5	0.5	0.0	0.0	0.5	0.5	3.0	3.0
14	8.0	7.5	3.5	2.5	0.5	0.5	0.5	0.0	1.0	0.5	3.0	3.0
15	8.0	6.5	2.5	2.0	0.5	0.5	1.0	0.5	1.0	0.5	3.5	3.0
16	8.5	7.0	2.0	1.5	0.5	0.5	2.0	1.0	1.0	1.0	3.5	3.5
17	8.0	6.0	2.5	2.0	0.5	0.5	2.0	2.0	1.0	1.0	3.5	1.5
18	6.5	5.5	2.5	2.5	0.5	0.0	2.0	2.0	1.0	1.0	1.5	1.0
19	5.5	5.0	3.0	2.5	1.0	0.5	2.0	1.0	1.5	1.0	2.5	1.5
20	5.0	3.5	3.0	2.5	1.0	1.0	1.0	0.5	1.5	1.5	3.0	2.0
21	5.0	5.0	3.0	3.0	1.5	1.0	0.5	0.5	1.5	1.5	3.5	2.5
22	5.5	5.0	3.0	2.5	1.5	1.5	1.0	0.5	1.5	1.0	4.0	3.0
23	5.5	5.5	2.5	2.5	1.5	1.5	1.0	0.5	1.5	1.0	4.5	3.5
24	5.5	4.5	3.0	2.5	1.5	1.5	1.0	0.5	1.5	1.0	5.0	4.5
25	4.5	4.0	3.0	2.5	1.5	1.5	1.0	0.5	1.5	1.0	5.5	5.0
26	5.0	4.0	2.5	2.5	1.5	1.0	1.0	1.0	1.0	1.0	6.5	5.0
27	5.5	5.0	2.5	2.5	1.0	1.0	1.0	1.0	1.5	1.0	6.5	5.0
28	6.0	5.5	2.5	2.0	1.0	1.0	1.0	1.0	2.5	1.5	6.0	5.5
29	6.0	5.5	2.0	1.0	1.0	0.0	1.0	0.5	---	---	7.5	6.0
30	5.5	5.0	1.5	1.0	1.0	0.0	0.5	0.5	---	---	7.5	7.0
31	5.0	4.5	---	---	1.0	1.0	0.5	0.5	---	---	7.0	6.0
MONTH	12.0	3.5	5.5	1.0	1.5	0.0	2.0	0.0	2.5	0.5	7.5	1.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	5.5	9.0	8.5	14.5	13.5	17.5	13.5	---	---	19.5	17.0
2	5.5	5.5	11.5	9.0	16.0	14.0	18.0	15.5	---	---	20.0	17.0
3	5.5	5.0	11.0	9.0	16.0	14.5	19.5	16.0	---	---	19.5	17.0
4	5.0	4.5	10.0	8.0	17.0	14.0	20.0	16.5	18.5	14.5	19.0	17.0
5	4.5	4.0	11.5	8.0	17.0	16.0	19.5	16.5	19.5	15.5	18.5	16.0
6	7.0	5.5	11.0	8.5	17.0	16.0	20.0	15.5	19.5	17.0	17.5	14.5
7	7.0	6.0	10.0	9.0	17.0	15.0	22.0	17.0	19.5	17.0	15.5	12.5
8	6.0	5.0	10.5	10.0	17.5	15.0	22.0	18.5	20.5	17.5	14.5	11.5
9	5.5	3.5	12.5	10.0	19.5	16.0	21.0	17.0	20.5	18.0	15.0	11.5
10	3.5	2.0	12.5	11.0	21.0	16.5	21.0	17.5	20.0	17.0	14.5	11.0
11	3.5	2.0	12.0	10.5	22.0	18.5	19.0	15.5	20.0	17.5	14.5	12.5
12	4.0	2.5	10.5	9.5	22.0	19.0	18.0	16.0	19.0	16.0	13.5	10.5
13	5.0	3.5	9.5	8.5	20.0	16.0	19.0	14.0	19.0	15.0	12.5	10.0
14	6.0	4.0	9.5	7.0	19.5	15.5	18.5	16.0	17.5	16.5	13.5	11.0
15	7.5	5.5	11.0	8.0	20.5	15.5	17.5	14.5	18.5	14.5	13.0	11.5
16	8.5	7.5	11.0	9.5	20.5	17.5	18.0	13.0	18.0	14.5	12.0	10.5
17	9.0	7.0	10.0	8.5	17.5	15.0	18.0	13.5	18.0	15.5	10.5	9.0
18	10.0	7.5	11.5	7.5	16.0	14.0	18.0	14.0	17.5	14.5	11.5	9.0
19	10.5	9.5	11.5	9.0	16.5	15.0	18.0	15.0	18.0	15.0	10.5	8.5
20	12.5	10.5	13.5	9.0	19.0	15.0	17.5	15.0	18.5	16.0	10.5	8.5
21	13.5	12.0	13.0	10.0	18.0	15.0	17.0	14.0	17.5	14.0	9.5	8.0
22	14.0	13.0	14.0	10.5	17.5	15.0	18.0	14.0	17.0	13.0	11.0	9.0
23	13.0	11.5	15.0	11.5	17.5	15.0	---	---	16.0	14.0	11.0	10.0
24	12.0	10.5	14.5	11.0	18.5	14.0	---	---	16.5	13.5	11.0	9.5
25	11.5	9.0	14.5	12.0	18.5	14.5	---	---	16.0	13.5	11.5	10.0
26	11.0	8.5	13.5	12.0	19.0	15.5	---	---	17.0	14.5	14.0	11.5
27	11.0	9.5	13.5	12.5	19.0	16.0	---	---	20.0	15.5	14.0	12.5
28	10.5	9.5	13.5	11.5	18.5	16.0	---	---	20.5	17.0	12.5	10.5
29	10.5	7.5	13.5	12.5	16.0	14.5	---	---	20.5	17.0	11.5	9.5
30	10.5	9.0	15.5	12.5	16.5	14.0	---	---	19.5	17.5	11.0	8.5
31	---	---	15.5	13.0	---	---	---	---	19.5	17.0	---	---
MONTH	14.0	2.0	15.5	7.0	22.0	13.5	---	---	20.5	13.0	20.0	8.0
YEAR	22.0	0.0										

04140300 RIFLE RIVER AT SELKIRK, MICH.

LOCATION.--Lat 44°18'48", long 84°04'10", in NW¼ NW¼ sec.9, T.22 N., R.3 E., Ogemaw County, temperature recorder at gaging station on left bank at upstream side of bridge on State road at Selkirk, 1.0 mi (1.6 km) downstream from Klacking Creek.

DRAINAGE AREA.--117 mi² (303 km²).

PERIOD OF RECORD.--Water temperatures: October 1950 to September 1973.

EXTREMES.--1971-72:
Water temperatures: Maximum, 23.0°C July 21-23; minimum, freezing point on many days during December to March.
1972-73:
Water temperatures: Maximum, 22.5°C July 9; minimum, freezing point on many days during December to March.
Period of record:
Water temperatures (1950-73): Maximum, 26.0°C Aug. 1, 1955; minimum, freezing point on many days during winter period.

REMARKS.--Intermittent ice cover during the winter periods.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.5	13.5	9.5	7.5	1.5	1.0	0.5	0.5	0.0	0.0	0.0	0.0
2	16.0	15.0	8.0	7.5	1.0	1.0	0.5	0.5	0.0	0.0	0.0	0.0
3	16.0	15.0	8.0	7.0	1.0	1.0	0.5	0.5	0.0	0.0	0.0	0.0
4	16.0	15.0	7.0	6.0	1.0	1.0	0.5	0.5	0.0	0.0	0.5	0.0
5	15.0	13.0	6.0	5.5	1.0	1.0	0.5	0.5	0.0	0.0	0.5	0.5
6	13.0	11.0	6.5	5.5	1.5	1.0	0.5	0.5	0.0	0.0	0.5	0.5
7	11.0	9.0	5.5	3.5	2.0	1.5	0.5	0.5	0.0	0.0	0.5	0.5
8	9.5	8.5	3.5	2.0	2.5	2.0	0.5	0.5	0.0	0.0	0.5	0.5
9	10.0	8.5	2.0	2.0	2.5	2.5	0.5	0.5	0.0	0.0	0.5	0.5
10	10.0	8.5	3.0	2.0	3.5	2.5	0.5	0.5	0.0	0.0	0.5	0.5
11	9.5	9.0	3.5	3.0	3.5	2.0	0.5	0.5	0.0	0.0	0.5	0.0
12	9.0	8.5	4.0	3.5	2.0	2.0	0.5	0.5	0.0	0.0	0.0	0.0
13	9.0	9.0	4.0	4.0	2.0	1.5	0.5	0.5	0.0	0.0	0.0	0.0
14	10.0	9.0	4.5	4.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0
15	10.5	9.5	5.0	4.0	1.5	1.0	0.5	0.5	0.0	0.0	0.0	0.0
16	10.5	9.5	6.5	5.0	1.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0
17	10.0	9.5	7.5	6.5	1.0	1.0	0.0	0.0	0.0	0.0	0.5	0.0
18	10.5	10.0	7.5	7.0	1.0	0.5	0.0	0.0	0.0	0.0	1.5	0.5
19	12.0	10.5	7.5	6.5	0.5	0.5	0.0	0.0	0.0	0.0	1.5	0.5
20	12.5	12.0	6.5	5.0	0.5	0.5	0.0	0.0	0.0	0.0	3.0	1.0
21	12.5	11.5	5.0	3.0	0.5	0.5	0.0	0.0	0.0	0.0	3.5	3.0
22	12.0	12.0	3.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0	3.0	1.5
23	12.0	12.0	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.0
24	12.0	11.5	1.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	1.0	0.5
25	12.0	12.0	1.0	1.0	0.5	0.5	0.0	0.0	0.0	0.0	1.5	0.5
26	12.0	11.0	2.0	1.0	1.0	0.5	0.0	0.0	0.0	0.0	2.0	0.5
27	12.0	11.0	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	3.0	1.0
28	12.0	11.0	2.5	2.0	1.0	0.5	0.0	0.0	0.0	0.0	3.0	2.0
29	11.5	11.0	2.5	2.0	0.5	0.5	0.0	0.0	0.0	0.0	3.0	2.0
30	11.5	11.0	2.0	1.5	0.5	0.5	0.0	0.0	---	---	2.0	2.0
31	11.0	9.5	---	---	0.5	0.5	0.0	0.0	---	---	3.5	1.5
MONTH	16.0	8.5	9.5	1.0	3.5	0.0	0.5	0.0	0.0	0.0	3.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.0	2.0	10.0	9.5	13.5	10.5	18.5	17.5	19.5	18.5	18.5	17.0
2	3.0	2.0	9.5	8.5	15.5	12.5	19.0	18.5	19.5	17.0	17.5	14.5
3	3.0	2.0	8.5	8.0	17.5	15.0	19.0	18.0	17.0	16.5	14.5	12.5
4	4.5	2.0	10.5	7.0	18.5	17.0	18.0	16.5	17.0	15.0	14.5	12.5
5	4.0	1.5	12.0	9.0	18.5	16.0	17.0	15.5	16.5	14.5	13.5	12.0
6	3.5	1.5	11.5	10.0	18.5	17.0	17.0	15.0	16.5	15.5	15.5	13.5
7	2.0	0.5	10.5	8.0	18.5	16.0	17.0	16.5	15.5	14.5	15.5	15.5
8	3.5	0.5	11.0	8.0	18.5	17.0	17.5	16.5	14.5	13.5	16.5	15.0
9	4.5	1.5	10.0	8.0	18.0	16.5	17.5	17.0	14.5	13.5	15.5	13.0
10	4.5	3.5	12.0	7.0	17.0	14.0	18.5	17.0	15.0	13.5	14.0	12.0
11	3.5	2.5	14.0	9.5	16.0	13.5	19.5	18.0	15.0	14.5	13.5	12.5
12	2.5	1.5	14.0	10.5	14.5	14.0	20.0	19.5	16.5	14.5	14.5	13.5
13	1.5	1.0	13.0	11.0	15.0	14.0	20.0	19.5	18.0	16.0	15.5	14.5
14	1.5	1.0	14.0	11.5	17.5	15.0	19.5	18.5	18.0	17.0	16.5	14.5
15	3.5	1.5	13.5	12.5	19.0	17.5	20.0	19.0	17.0	15.5	15.0	12.5
16	3.5	2.5	13.5	12.0	19.0	16.0	20.0	19.0	17.0	15.5	15.0	13.5
17	5.0	2.5	15.5	12.5	17.0	14.0	20.0	18.5	16.5	15.5	17.0	15.0
18	7.5	4.5	17.0	14.0	17.5	15.0	20.0	20.0	17.5	16.0	16.5	15.5
19	7.0	4.5	17.0	15.0	18.0	16.0	20.0	19.0	17.5	16.5	16.5	15.0
20	6.0	3.5	18.0	15.0	18.5	17.5	22.5	20.0	17.5	16.5	15.5	13.5
21	6.0	4.0	19.0	16.5	18.5	16.0	23.0	21.5	17.5	17.0	15.0	13.5
22	5.0	4.0	18.5	16.0	16.0	15.0	23.0	21.0	18.5	17.5	13.5	11.0
23	4.0	4.0	18.0	15.5	15.0	14.0	23.0	22.0	18.5	18.0	11.5	9.5
24	4.0	3.5	18.0	15.0	14.0	14.0	22.5	21.0	18.5	18.0	12.0	10.5
25	6.5	3.0	18.0	16.0	15.5	14.0	22.0	20.0	18.0	17.0	13.5	12.0
26	8.5	5.0	18.0	15.5	16.5	15.5	20.0	18.0	17.5	16.5	15.5	13.5
27	9.0	6.0	17.5	15.0	18.0	15.5	18.0	16.5	16.5	16.5	15.5	12.5
28	10.5	7.0	17.5	15.0	19.0	17.5	18.0	16.5	17.5	16.0	12.5	10.5
29	11.5	8.0	17.5	15.5	19.0	18.0	19.0	17.0	17.5	16.0	12.5	11.5
30	11.0	10.0	17.5	14.0	18.5	17.5	19.0	17.5	17.5	15.5	12.5	11.0
31	---	---	14.0	11.5	---	---	19.5	18.0	18.5	16.5	---	---
MONTH	11.5	0.5	19.0	7.0	19.0	10.5	23.0	15.0	19.5	13.5	18.5	9.5
YEAR	23.0	0.0										

04140500 RIFLE RIVER AT SELKIRK, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.5	10.5	6.0	5.5	1.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0
2	11.0	9.5	7.0	6.0	1.0	1.0	0.0	0.0	0.0	0.0	1.5	0.0
3	12.5	11.0	7.0	7.0	1.0	1.0	0.0	0.0	0.0	0.0	2.0	1.5
4	13.5	12.0	7.0	6.5	1.0	1.0	0.0	0.0	1.0	0.0	2.0	1.5
5	13.5	12.5	6.5	6.0	1.0	1.0	0.0	0.0	1.0	0.5	1.5	1.0
6	13.0	12.0	6.5	6.0	1.0	1.0	0.0	0.0	0.5	0.5	1.0	1.0
7	12.0	11.0	7.0	6.5	1.0	1.0	0.5	0.0	0.5	0.5	1.5	1.0
8	11.0	10.0	7.0	7.0	1.0	1.0	0.0	0.0	0.5	0.0	1.0	0.5
9	10.0	8.5	7.0	6.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.5
10	8.5	7.5	6.0	6.0	1.0	1.0	0.0	0.0	0.0	0.0	2.0	1.0
11	9.5	8.0	6.0	6.0	1.0	1.0	0.0	0.0	0.0	0.0	3.0	2.0
12	10.5	9.5	6.0	6.0	1.0	1.0	0.0	0.0	0.0	0.0	3.0	2.5
13	9.5	8.0	6.0	5.0	1.0	1.0	0.0	0.0	0.0	0.0	2.5	2.5
14	9.0	8.5	5.0	3.5	1.0	0.5	0.0	0.0	0.0	0.0	2.5	2.5
15	8.5	7.5	3.5	2.5	0.5	0.5	0.0	0.0	0.0	0.0	3.0	2.5
16	9.0	8.0	2.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	3.0	3.0
17	9.0	7.0	2.0	1.5	0.5	0.5	0.0	0.0	0.0	0.0	3.0	1.0
18	7.0	5.0	2.5	2.0	0.5	0.5	0.0	0.0	0.0	0.0	1.0	0.5
19	5.0	4.0	3.0	2.5	0.5	0.5	0.0	0.0	0.0	0.0	2.5	0.5
20	5.0	3.5	3.0	3.0	0.5	0.5	0.0	0.0	0.0	0.0	3.0	1.0
21	5.5	5.0	3.0	3.0	0.5	0.5	0.0	0.0	0.0	0.0	3.0	1.5
22	6.5	5.5	3.0	2.5	0.5	0.0	0.0	0.0	0.0	0.0	4.0	2.0
23	7.0	6.5	2.5	2.0	0.5	0.0	0.0	0.0	0.0	0.0	5.0	2.5
24	7.0	6.0	2.5	2.0	1.5	0.5	0.0	0.0	0.0	0.0	5.0	4.0
25	6.0	5.0	2.5	2.5	1.5	1.5	0.5	0.0	0.0	0.0	5.0	4.5
26	6.5	5.5	2.5	2.5	1.5	1.5	0.5	0.5	0.0	0.0	7.0	4.5
27	7.0	6.5	3.0	2.5	1.5	1.0	0.5	0.5	0.5	0.0	6.5	4.5
28	7.5	7.0	3.0	2.5	1.0	1.0	0.5	0.5	0.0	0.0	6.5	5.0
29	7.5	6.5	2.5	1.5	1.0	0.0	0.5	0.0	---	---	8.0	6.0
30	6.5	6.0	1.5	1.0	0.5	0.0	0.0	0.0	---	---	8.0	7.0
31	6.0	5.5	---	---	0.5	0.5	0.0	0.0	---	---	7.0	6.5
MONTH	13.5	3.5	7.0	1.0	1.5	0.0	0.5	0.0	1.0	0.0	8.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.5	6.0	9.5	8.5	15.5	13.5	18.0	15.0	17.5	17.5	21.0	19.5
2	6.0	6.0	11.5	8.5	16.5	14.5	18.5	17.5	18.0	17.5	21.5	19.5
3	6.0	6.0	11.5	10.0	16.5	14.5	19.5	18.0	19.0	17.0	21.0	19.0
4	6.0	5.0	10.0	8.5	16.5	14.0	20.0	18.0	19.5	17.0	20.5	19.5
5	6.5	4.0	11.0	8.5	17.5	16.5	20.0	18.0	20.0	18.0	20.5	19.0
6	8.0	6.5	11.0	9.5	17.5	16.5	19.5	17.0	20.5	19.0	19.5	16.5
7	8.0	6.0	10.0	9.5	16.5	14.5	21.5	19.0	20.5	19.5	16.5	13.5
8	7.0	4.5	10.5	10.0	18.0	14.5	21.5	20.5	21.0	19.0	15.0	12.5
9	6.5	3.0	12.0	10.5	20.0	17.0	22.5	19.5	21.0	20.0	16.0	13.0
10	3.0	2.0	12.0	12.0	20.0	16.5	21.5	20.0	21.0	19.5	15.5	12.5
11	4.5	2.0	12.0	11.0	21.5	18.5	21.0	18.5	21.0	19.0	16.5	14.5
12	5.5	3.0	11.0	10.5	21.5	20.0	19.5	18.5	20.0	18.0	15.0	12.5
13	6.5	3.5	10.5	9.5	20.5	17.0	19.0	18.0	19.5	17.0	13.5	11.5
14	7.5	4.5	10.0	9.0	19.5	16.0	19.0	18.5	19.5	18.0	15.0	12.5
15	9.0	6.5	10.5	9.0	20.5	17.0	19.0	18.0	19.5	17.0	14.5	12.5
16	9.5	8.5	10.5	10.5	20.0	17.5	19.0	17.0	19.0	16.5	12.5	12.0
17	10.5	7.0	10.5	9.5	17.5	16.5	19.0	18.5	19.5	17.5	12.0	9.5
18	12.0	8.5	10.5	8.5	15.0	14.0	19.0	17.0	19.5	18.0	11.0	9.0
19	12.5	11.0	12.0	10.0	16.5	14.5	19.5	18.0	19.0	17.0	11.0	9.5
20	14.0	11.5	12.0	11.0	18.0	15.5	19.5	18.5	19.5	18.0	11.0	9.5
21	15.5	13.5	12.5	11.5	17.5	15.5	19.5	17.5	18.5	16.0	10.5	9.0
22	15.5	14.0	13.5	12.0	17.5	16.0	19.5	18.0	17.0	14.0	12.0	9.5
23	14.5	11.5	14.0	13.0	17.0	15.5	19.5	17.5	16.5	15.0	12.0	11.5
24	13.0	10.5	14.0	13.0	18.0	15.0	19.0	17.5	16.0	15.0	12.5	11.0
25	12.5	9.5	14.0	13.5	18.5	15.5	20.5	18.5	17.0	14.5	12.0	11.0
26	12.5	8.5	13.5	12.5	19.5	18.0	20.5	19.0	19.0	17.0	15.0	12.0
27	12.0	9.5	12.5	12.5	19.0	18.0	19.0	18.0	20.5	18.5	15.0	14.5
28	11.0	8.5	14.0	12.0	19.0	17.5	19.0	18.5	22.0	19.5	14.5	12.5
29	10.5	8.0	14.0	13.0	17.5	16.0	18.5	16.5	22.0	20.0	13.0	11.5
30	10.0	9.5	15.0	12.0	16.0	15.5	18.0	17.5	21.5	20.0	12.0	10.0
31	---	---	15.0	12.5	---	---	18.0	17.5	20.5	19.0	---	---
MONTH	15.5	2.0	15.0	8.5	21.5	13.5	22.5	15.0	22.0	14.0	21.5	9.0
YEAR	22.5	0.0										

04142000 RIFLE RIVER NEAR STERLING, MICH.
(International Hydrological Decade River Station)

LOCATION.--Lat 44°04'21", long 84°01'12", in NE¼ NW¼ sec.5, T.19 N., R.4 E., Arenac County, at gaging station on left bank 30 ft (9.1 m) downstream from bridge on Old M-70, 2.8 mi (4.5 km) north of Sterling, and 20 mi (32 km) upstream from mouth.

DRAINAGE AREA.--320 mi² (829 km²), approximately.

PERIOD OF RECORD.--Sediment records: April to September 1966, water years 1967-69 (partial-record station), October 1969 to September 1970, January to April 1971, April to September 1972 (discontinued).

EXTREMES, 1971-72:
Sediment concentrations: Maximum daily, 304 mg/l Apr. 13; minimum daily, 0 mg/l on several days in September.
Sediment discharge: Maximum daily, 1,760 tons (1,600 tonnes) Apr. 13; minimum daily 0 ton (tonnes) on several days in September.
Period of record:
Sediment concentrations (1966, 1969-71, 1972): Maximum daily 304 mg/l Apr. 13, 1972; minimum, 0 mg/l on several days in September 1972.
Sediment discharge (1966, 1969-71, 1972): Maximum daily, 1,760 tons (1,600 tonnes) Apr. 13, 1972; minimum daily, 0 ton (tonne) on several days in September, 1972.

REMARKS.--Flow affected by ice Dec. 7-8, 18-25, Dec. 29 to Apr. 1. Occasional regulation by dams upstream from station. No sediment records available: October to December 1970; May to December 1971; January to March 1972.

SUSPENDED-SEDIMENT DISCHARGE, APRIL TO SEPTEMBER 1972

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	380	95	97	392	44	47	207	15	8.4
2	385	63	65	608	121	199	208	15	8.4
3	379	38	39	848	170	389	198	15	8.0
4	383	30	31	732	102	202	190	15	7.7
5	381	30	31	530	60	86	180	14	6.8
6	373	29	29	462	49	61	176	14	6.7
7	336	29	26	458	43	53	168	13	5.9
8	331	28	25	402	37	40	163	12	5.3
9	333	31	28	356	33	32	164	12	5.3
10	473	75	101	334	28	25	166	12	5.4
11	957	252	651	315	22	19	165	12	5.3
12	1570	289	1230	297	20	16	172	12	5.6
13	2140	304	1760	285	18	14	181	12	5.9
14	2290	208	1290	290	16	13	184	12	6.0
15	2320	200	1250	408	54	63	250	30	20
16	2190	155	917	498	90	121	220	25	15
17	1710	139	642	399	69	74	191	23	12
18	1400	153	578	342	57	53	178	20	9.6
19	1330	195	700	309	45	38	168	19	8.6
20	1290	155	540	288	33	26	167	18	8.1
21	1050	168	476	274	24	18	172	17	7.9
22	880	135	321	250	17	12	184	15	7.5
23	860	125	290	238	15	9.6	184	14	7.0
24	771	149	310	223	14	8.4	180	14	6.8
25	656	102	181	212	13	7.4	184	14	7.0
26	572	63	97	200	12	6.5	183	13	6.4
27	510	66	91	192	12	6.2	174	13	6.1
28	462	69	86	187	12	6.1	165	13	5.8
29	426	56	64	184	14	7.0	164	12	5.3
30	395	42	45	205	14	7.7	188	12	6.1
31	--	--	--	212	14	8.0	--	--	--
TOTAL	27533	--	11991	10938	--	1667.9	5482	--	235.9

04142000 RIFLE RIVER NEAR STERLING, MICH.--Continued

SUSPENDED-SEDIMENT DISCHARGE, APRIL TO SEPTEMBER 1973--Continued

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	174	12	5.6	149	7	2.8	256	8	5.6
2	160	11	4.8	190	14	7.2	236	8	5.1
3	152	11	4.5	205	20	11	222	8	4.8
4	148	10	4.0	172	18	8.4	212	8	4.6
5	148	10	4.0	152	13	5.3	194	8	4.2
6	146	10	3.9	149	11	4.4	187	8	4.0
7	143	10	3.9	161	10	4.3	188	7	3.6
8	143	10	3.9	199	12	6.4	197	7	3.7
9	149	10	4.0	290	27	22	176	5	2.4
10	175	10	4.7	250	27	19	169	5	2.3
11	162	10	4.4	200	21	11	172	3	1.4
12	148	10	4.0	199	15	8.1	168	2	.91
13	173	14	6.5	183	12	5.9	172	2	.93
14	195	20	11	166	12	5.4	173	0	0
15	450	195	255	161	11	4.8	164	0	0
16	460	150	186	159	10	4.3	161	0	0
17	280	61	46	181	10	4.9	155	0	0
18	228	38	23	207	10	5.6	180	0	0
19	204	33	18	180	10	4.9	175	0	0
20	188	23	12	165	10	4.5	163	0	0
21	171	15	6.9	166	10	4.5	158	0	0
22	161	12	5.2	251	52	50	155	0	0
23	153	11	4.5	371	131	140	153	0	0
24	152	10	4.1	313	65	55	156	0	0
25	151	9	3.7	294	50	40	161	0	0
26	148	8	3.2	430	119	185	255	47	35
27	143	7	2.7	1060	202	578	241	22	14
28	141	7	2.7	788	98	209	205	1	.55
29	143	7	2.7	482	48	62	231	6	3.7
30	143	7	2.7	339	25	23	315	36	31
31	138	7	2.6	289	10	7.8	--	--	--
TOTAL	5660	--	650.2	8526	--	1504.5	5751	--	127.79

04144000 SHIAWASSEE RIVER AT BYRON, MICH.

LOCATION.--Lat 42°49'25", long 083°56'45", in NE¼ NE¼ sec.23, T.5 N., R.4 E., Shiawassee County, temperature recorder at gaging station on upstream side of bridge at Byron, 0.3 mi (0.5 km) downstream from milldam which is just upstream from South Branch Shiawassee River.
DRAINAGE AREA.--368 mi^2 (953 km^2).
PERIOD OF RECORD.--March 1962 to September 1973
EXTREMES.--1971-72:
Water temperatures: Maximum, 28.0°C July 22, 23; minimum, freezing point on many days during December to February.
1972-73:
Water temperatures: Maximum, 28.0°C July 9, 10; minimum freezing point on many days during December to February.
Period of record:
Water temperatures (1962-73): 29.0°C June 28, 1971; minimum freezing point on many days during winter periods.
REMARKS.--Periods of missing record due to clock stoppage, recorded temperature ranges: Feb. 29 to April 9, 1972, 0°C to 6.0°C; Dec. 26, 1972 to Jan. 11, 1973, 0°C to 0.5°C; Jan. 11 to 22, 0°C to 1.4°C; Jan. 29 to Mar. 5, 0°C to 1.5°C; Mar. 8 to Apr. 16, 0.5°C to 11.0°C.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	18.0	13.5	12.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	20.5	19.5	12.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	21.0	19.5	11.5	10.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
4	21.0	19.0	10.0	8.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
5	19.0	17.0	8.0	6.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
6	18.0	15.5	7.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	15.5	13.5	6.0	3.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	13.5	11.5	3.5	2.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
9	14.0	11.5	3.0	3.0	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0
10	13.5	12.0	3.5	3.0	4.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0
11	13.5	12.0	4.0	3.5	4.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0
12	12.0	11.0	5.0	4.0	3.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
13	11.0	11.0	5.5	5.0	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
14	12.0	11.0	5.5	5.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
15	13.5	12.0	6.5	5.5	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
16	14.0	13.0	6.5	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
17	14.0	13.0	8.5	0.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
18	13.5	13.0	9.0	8.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	15.0	13.5	9.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	15.0	13.5	6.5	5.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	15.5	15.0	5.0	2.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
22	15.5	15.5	2.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	15.5	15.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	15.5	15.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	15.0	15.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
26	15.0	14.5	1.0	0.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
27	15.5	15.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
28	15.5	14.5	1.5	1.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
29	15.0	13.5	1.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	14.5	13.5	1.0	0.5	0.0	0.0	0.0	0.0	---	---	0.0	0.0
31	14.5	13.5	---	---	0.0	0.0	0.0	0.0	---	---	0.0	0.0
MONTH	21.0	11.0	13.5	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	15.0	13.0	15.5	13.5	23.0	19.5	23.5	21.5	23.0	21.5
2	0.0	0.0	15.5	14.5	18.0	15.0	23.0	21.0	23.5	21.5	23.0	19.5
3	0.0	0.0	15.0	13.0	20.5	18.0	21.0	20.0	21.5	20.5	19.5	18.0
4	0.0	0.0	13.5	11.5	23.0	19.5	21.0	19.0	21.0	19.0	18.5	17.0
5	0.0	0.0	15.0	12.0	23.0	19.0	19.5	18.0	21.0	18.5	18.5	16.5
6	0.0	0.0	16.0	14.0	23.0	20.0	20.5	17.0	20.5	19.0	19.0	17.0
7	0.0	0.0	16.0	12.0	23.0	19.5	20.5	18.0	19.0	18.5	19.0	18.0
8	0.0	0.0	12.0	10.5	23.5	19.5	20.0	18.5	18.0	17.0	19.0	18.5
9	0.0	0.0	11.5	9.5	22.0	19.5	20.0	19.0	17.0	16.0	19.0	17.0
10	8.0	4.5	13.5	10.0	19.5	17.0	23.0	19.0	18.0	15.5	18.5	16.0
11	10.0	6.5	15.5	11.5	18.5	16.0	25.0	21.0	18.0	15.5	18.5	18.0
12	10.5	8.0	17.0	14.0	18.0	16.5	24.5	21.5	19.0	16.5	18.0	18.0
13	10.5	10.0	16.5	15.0	18.5	16.5	24.5	23.0	21.0	18.0	19.0	18.0
14	10.0	9.0	16.0	14.5	22.0	18.5	23.5	21.5	22.0	20.0	20.0	19.0
15	10.0	9.0	15.5	14.5	23.0	20.5	23.5	21.0	21.5	19.5	19.5	18.0
16	9.0	6.0	15.5	15.0	22.0	19.5	22.0	20.5	21.0	19.0	19.0	18.5
17	9.0	5.0	18.5	15.0	20.0	17.0	23.0	21.0	21.0	19.0	21.0	19.0
18	11.0	8.5	20.0	17.0	21.5	18.0	23.0	22.0	23.5	20.5	21.0	20.5
19	11.0	10.5	21.0	19.0	22.0	19.0	24.0	23.0	24.5	22.0	21.0	20.5
20	10.5	9.5	22.0	19.0	22.0	21.0	25.5	23.5	24.5	21.5	20.5	19.5
21	9.5	8.5	23.5	20.0	21.5	18.0	26.5	25.0	25.0	22.0	19.5	18.0
22	8.5	8.0	23.5	20.5	18.0	16.5	28.0	26.0	25.0	23.5	18.5	16.0
23	8.0	7.0	23.5	20.0	16.0	14.5	28.0	26.5	25.0	23.5	16.0	15.0
24	7.0	6.0	24.0	21.0	14.5	14.0	27.0	25.5	24.0	23.0	15.5	15.0
25	8.0	5.0	23.5	21.0	16.5	14.0	26.0	24.5	24.0	22.0	16.5	16.0
26	9.5	6.5	22.0	20.0	18.5	16.5	24.5	21.5	23.5	23.0	18.0	16.0
27	11.0	9.0	22.0	20.0	20.0	17.0	21.5	20.0	23.5	22.0	18.0	16.5
28	13.0	10.0	22.0	19.5	21.5	18.5	21.5	20.0	22.0	21.0	16.5	15.0
29	13.0	11.5	23.0	19.5	21.0	20.0	22.0	20.0	23.0	21.5	15.5	15.0
30	13.5	11.5	21.5	18.0	20.5	19.5	23.5	20.0	23.0	21.0	15.0	13.5
31	---	---	18.0	14.5	---	---	23.5	20.5	22.0	21.0	---	---
MONTH	13.5	0.0	24.0	9.5	23.5	13.5	28.0	17.0	25.0	15.5	23.0	13.5
YEAR	28.0	0.0										

04144000 SHIAWASSEE RIVER AT BYRON, MICH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	12.0	4.0	4.0	0.5	0.5	---	---	---	---	---	---
2	13.0	11.0	4.5	4.0	0.5	0.5	---	---	---	---	---	---
3	14.5	13.0	4.5	4.5	0.5	0.5	---	---	---	---	---	---
4	15.0	14.5	4.5	4.5	0.5	0.0	---	---	---	---	---	---
5	15.0	14.5	4.5	4.0	0.0	0.0	---	---	---	---	---	---
6	15.0	14.5	4.0	4.0	0.0	0.0	---	---	---	---	3.5	1.0
7	14.0	13.0	4.0	3.5	0.0	0.0	---	---	---	---	6.0	3.5
8	13.0	11.5	5.0	4.0	0.0	0.0	---	---	---	---	7.0	6.0
9	11.5	10.0	5.0	4.5	0.0	0.0	---	---	---	---	---	---
10	9.5	9.0	4.5	4.5	0.0	0.0	---	---	---	---	---	---
11	10.0	8.5	4.5	4.0	0.0	0.0	---	---	---	---	---	---
12	9.0	9.0	4.0	4.0	0.0	0.0	---	---	---	---	---	---
13	9.0	8.0	4.0	3.0	0.0	0.0	---	---	---	---	---	---
14	8.5	8.0	3.0	1.0	0.0	0.0	---	---	---	---	---	---
15	8.5	6.5	1.0	0.5	0.0	0.0	---	---	---	---	---	---
16	8.0	7.0	0.5	0.0	0.0	0.0	---	---	---	---	---	---
17	8.0	6.0	0.0	0.0	0.0	0.0	---	---	---	---	---	---
18	6.0	4.0	1.0	0.0	0.0	0.0	---	---	---	---	---	---
19	4.0	3.0	1.0	1.0	0.5	0.5	---	---	---	---	---	---
20	3.5	1.5	1.0	1.0	0.5	0.5	---	---	---	---	---	---
21	3.5	3.5	1.0	1.0	0.5	0.5	---	---	---	---	---	---
22	4.5	3.5	1.0	1.0	0.5	0.5	---	---	---	---	---	---
23	6.0	4.0	1.0	1.0	0.5	0.5	1.0	1.0	---	---	---	---
24	6.0	5.5	1.0	0.5	---	---	1.0	1.0	---	---	---	---
25	5.5	5.0	0.5	0.5	---	---	1.5	1.0	---	---	---	---
26	5.0	4.0	0.5	0.5	---	---	2.0	1.5	---	---	---	---
27	4.5	4.0	0.5	0.5	---	---	3.0	2.0	---	---	---	---
28	4.5	4.5	1.0	0.5	---	---	3.0	2.0	---	---	---	---
29	5.0	4.5	1.0	0.5	---	---	---	---	---	---	---	---
30	5.0	4.5	0.5	0.5	---	---	---	---	---	---	---	---
31	4.5	4.0	---	---	---	---	---	---	---	---	---	---
MONTH	15.0	1.5	5.0	0.0	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	14.5	12.0	17.0	15.0	21.0	19.0	22.0	21.5	26.5	25.0
2	---	---	16.0	14.0	19.5	17.0	23.5	20.5	22.0	21.0	27.0	25.5
3	---	---	16.0	11.5	19.5	19.0	24.0	23.0	23.5	20.5	27.0	25.0
4	---	---	11.5	10.5	21.0	19.0	24.0	23.0	24.0	21.0	27.0	25.0
5	---	---	13.0	10.0	21.0	20.0	24.0	22.0	24.5	21.5	26.5	24.5
6	---	---	13.5	12.0	21.0	20.0	24.5	22.0	25.0	22.0	25.0	22.0
7	---	---	14.5	13.0	20.0	19.0	25.5	23.5	24.5	23.0	24.5	20.0
8	---	---	15.0	14.5	21.0	19.0	26.5	25.0	26.0	23.5	21.5	19.0
9	---	---	16.5	14.5	23.0	20.5	28.0	26.0	26.0	24.5	20.5	19.0
10	---	---	16.5	16.0	24.0	21.5	28.0	25.5	25.0	24.0	20.0	16.5
11	---	---	16.5	15.5	25.0	23.0	27.0	24.5	25.0	23.5	19.0	17.0
12	---	---	15.5	14.5	25.0	24.5	24.5	21.5	25.0	23.5	18.0	14.0
13	---	---	14.5	12.0	25.0	23.5	24.5	21.5	24.5	22.0	16.0	13.5
14	---	---	12.0	11.0	24.5	22.0	24.5	23.5	24.5	23.0	16.0	14.0
15	---	---	12.0	10.5	24.0	22.0	24.0	22.0	24.5	21.0	16.0	13.5
16	---	---	12.0	11.0	24.5	24.0	24.0	21.5	24.0	21.0	16.0	13.5
17	11.5	10.0	11.0	10.0	24.0	21.0	24.5	21.5	23.5	21.5	13.5	10.5
18	14.0	11.5	13.5	9.5	21.0	20.0	24.5	21.5	24.0	21.0	11.0	9.5
19	15.5	14.0	13.5	12.0	22.0	20.0	25.0	23.0	24.0	21.5	11.0	9.5
20	18.0	15.5	16.0	12.0	23.0	21.0	25.0	23.5	24.0	22.0	11.5	10.5
21	18.0	18.0	17.0	14.0	23.5	21.0	23.5	22.0	23.0	20.5	11.0	9.5
22	18.0	16.5	16.0	15.0	23.0	21.0	24.5	21.5	21.0	19.0	13.0	10.5
23	16.5	14.5	15.0	14.5	22.0	20.5	25.0	21.5	21.0	19.0	13.0	11.5
24	16.5	14.5	16.5	13.5	21.0	20.0	24.5	23.0	20.5	18.5	14.0	11.0
25	15.0	13.0	16.5	15.5	22.0	19.5	26.0	23.5	22.0	19.5	15.0	13.0
26	15.5	13.5	16.5	15.5	21.5	20.5	26.0	25.0	24.5	21.5	17.0	15.0
27	15.5	12.0	16.5	15.5	21.0	20.0	25.0	23.5	26.0	23.5	18.0	16.5
28	12.0	10.5	16.0	15.0	21.0	20.0	25.0	23.0	27.0	24.5	18.0	16.0
29	12.0	10.5	16.0	15.0	20.0	19.5	24.0	21.0	27.0	25.5	16.0	15.0
30	12.0	11.0	15.0	13.5	19.5	18.5	24.0	21.5	27.0	25.5	15.0	13.0
31	---	---	15.0	13.0	---	---	23.5	22.0	26.0	25.0	---	---
MONTH	---	---	17.0	9.5	25.0	15.0	28.0	19.0	27.0	18.5	27.0	9.5
YEAR	28.0	0.0										

04144500 SHIAWASSEE RIVER AT OWOSSO, MICH.
(International Hydrological Decade River Station)

LOCATION.--Lat 43°00'10", long 84°11'15", in SE¼ sec.14, T.7 N., R.2 E., Shiawassee County, at West Oliver Street bridge in Owosso, 1.0 mi (1.6 km) upstream from gaging station.

DRAINAGE AREA.--538 mi^2 (1,390 km^2), at gaging station.

PERIOD OF RECORD.--Sediment records: May 1966 to September 1972 (discontinued).

EXTREMES.--1971-72:
Sediment concentrations: Maximum daily, 385 mg/l April 17; minimum daily, 5 mg/l July 2-4, 10.
Sediment discharge: Maximum daily, 2,790 tons (2,531 tonnes) April 17; minimum daily, 1.4 tons (1.3 tonnes) on several days in November and July 10.
Period of record:
Sediment concentrations (1966-68, 71-72): Maximum daily, 647 mg/l June 14, 1971; minimum daily, 1 mg/l on several days in 1966 and 1967.
Sediment discharge: (1966-68, 71-72): Maximum daily, 3,460 tons (3,139 tonnes) Apr. 17, 1967; minimum daily, 0.37 ton (0.36 tonne) Oct. 9, 1967.

REMARKS.--No inflow between sampling site and gaging station. No sediment records available for: April, May, December 1969; January, February 1970; August, September 1971; January, February 1972. More than 20 percent of daily records missing for December 1968; January, November 1969; March to July, September 1970; February, May to July, October 1971; March, August, 1972.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	--	--	--	94	18	4.6	172	7	3.3
2	--	--	--	106	15	4.3	150	8	3.2
3	--	--	--	101	13	3.5	168	10	4.5
4	--	--	--	101	11	3.0	190	13	6.7
5	--	--	--	101	10	2.7	183	14	6.9
6	--	--	--	94	10	2.5	138	14	5.2
7	--	--	--	81	12	2.6	123	14	4.6
8	--	--	--	81	12	2.6	120	15	4.9
9	--	--	--	85	11	2.5	129	16	5.6
10	--	--	--	85	8	1.8	169	16	7.3
11	--	--	--	85	6	1.4	194	16	8.4
12	--	--	--	87	6	1.4	194	17	8.9
13	--	--	--	87	6	1.4	193	17	8.9
14	--	--	--	87	8	1.9	179	17	8.2
15	--	--	--	89	9	2.2	--	--	--
16	--	--	--	83	8	1.8	--	--	--
17	--	--	--	78	7	1.5	--	--	--
18	76	23	4.7	78	7	1.5	418	15	17
19	132	28	10	78	7	1.5	391	15	16
20	74	37	7.4	76	7	1.4	382	15	15
21	57	43	6.6	78	7	1.5	354	15	14
22	74	46	9.2	74	7	1.4	286	14	11
23	83	48	11	64	7	1.2	218	12	7.1
24	85	50	11	68	8	1.5	228	10	6.2
25	101	50	14	74	8	1.6	206	9	5.0
26	106	48	14	74	7	1.4	205	8	4.4
27	103	45	13	81	7	1.5	196	8	4.2
28	101	42	11	103	8	2.2	192	8	4.1
29	101	37	10	153	8	3.3	153	8	3.3
30	96	28	7.3	172	7	3.3	224	8	4.8
31	94	23	5.8	--	--	--	--	--	--
TOTAL	--	--	--	2698	--	65.0	--	--	--

04144500 SHIAWASSEE RIVER AT OWOSSO, MICH.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972--Continued

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1							--	--	--
2							--	--	--
3							--	--	--
4							--	--	--
5							--	--	--
6							--	--	--
7							--	--	--
8							--	--	--
9							--	--	--
10							--	--	--
11							--	--	--
12							--	--	--
13							--	--	--
14							--	--	--
15							--	--	--
16							--	--	--
17							--	--	--
18							1380	76	283
19							1190	55	177
20							1030	43	120
21							--	--	--
22							--	--	--
23							--	--	--
24							--	--	--
25							976	27	71
26							915	25	62
27							836	25	56
28							742	24	48
29							681	23	42
30							649	22	39
31							625	20	34
TOTAL							--	--	--

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	628	19	32	421	15	17	135	16	5.8
2	619	18	30	398	15	16	138	17	6.3
3	611	16	26	409	15	17	139	18	6.8
4	572	15	23	441	15	18	128	17	5.9
5	503	15	20	454	15	18	120	17	5.5
6	448	14	17	441	15	18	116	16	5.0
7	415	12	13	444	15	18	106	15	4.3
8	381	12	12	479	15	19	82	14	3.1
9	367	11	11	474	15	19	87	13	3.1
10	349	11	10	422	15	17	95	13	3.3
11	334	11	9.9	373	15	15	93	13	3.3
12	325	10	8.8	332	15	13	104	12	3.4
13	681	98	203	298	15	12	103	10	2.8
14	761	136	279	286	15	12	119	10	3.2
15	681	91	167	324	15	13	182	9	4.4
16	1210	163	811	428	14	16	146	8	3.2
17	2680	385	2790	436	13	15	137	7	2.6
18	1730	188	878	438	11	13	126	6	2.0
19	1420	101	387	411	9	10	116	7	2.2
20	1340	66	239	379	7	7.2	108	6	1.7
21	1360	48	176	355	7	6.7	105	7	2.0
22	1440	31	121	295	8	6.4	120	9	2.9
23	1350	20	73	260	9	6.3	123	10	3.3
24	1180	18	57	277	10	7.5	133	11	4.0
25	1020	18	50	276	11	8.2	138	11	4.1
26	773	18	38	297	11	8.8	143	10	3.9
27	630	17	29	272	12	8.8	140	10	3.8
28	556	17	26	223	13	7.8	135	9	3.3
29	498	16	22	188	13	6.6	143	8	3.1
30	453	15	18	163	14	6.2	143	7	2.7
31	--	--	--	127	15	5.1	--	--	--
TOTAL	25315	--	[illegible]	10821	--	381.6	3703	--	111.0

04144500 SHIAWASSEE RIVER AT OWOSSO, MICH.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972--Continued

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	147	6	2.4	--	--	--	144	18	7.0
2	140	5	1.9	--	--	--	141	17	6.5
3	143	5	1.9	--	--	--	118	15	4.8
4	143	5	1.9	--	--	--	107	13	3.8
5	136	6	2.2	--	--	--	99	13	3.5
6	123	7	2.3	--	--	--	92	12	3.0
7	116	7	2.2	--	--	--	86	11	2.6
8	116	7	2.2	--	--	--	90	11	2.7
9	111	6	1.8	--	--	--	97	11	2.9
10	106	5	1.4	--	--	--	--	--	--
11	159	35	26	--	--	--	--	--	--
12	197	55	35	--	--	--	--	--	--
13	122	17	5.6	--	--	--	262	49	39
14	143	18	6.9	--	--	--	--	--	--
15	1080	486	1540	--	--	--	--	--	--
16	720	218	444	90	63	15	--	--	--
17	501	72	97	95	57	15	167	27	12
18	456	48	59	95	51	13	211	27	15
19	444	38	46	115	45	14	270	26	19
20	319	33	28	105	40	11	277	26	19
21	236	29	18	110	36	11	274	25	18
22	175	27	13	113	32	9.8	243	25	16
23	164	28	12	150	49	29	194	24	13
24	144	28	11	314	160	136	164	24	11
25	119	26	8.4	304	123	101	153	23	9.5
26	116	23	7.2	237	92	59	164	23	10
27	122	21	6.9	238	70	45	203	22	12
28	117	18	5.7	235	54	34	234	21	13
29	111	16	4.8	217	39	23	231	21	13
30	--	--	--	199	27	15	225	20	12
31	--	--	--	156	21	8.8	--	--	--
TOTAL	--	--	--	--	--	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

						PARTICLE SIZE										
						PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED										
DATE	TIME	WATER TEM- PERA- TURE (°C)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00
JULY 15, 1972	1800		1200	612	1980	70	83	94	98	99	100					

04151500 CASS RIVER AT FRANKENMUTH, MICH.
(International Hydrological Decade River Station)

LOCATION.--Lat 43°19'50", long 83°43'25", in NW¼ SE¼ sec.27, T.11 N., R.6 E., Saginaw County, at bridge on Dehmel Road, 0.7 mi (1.1 km) downstream from gaging station, 1.1 mi (1.8 km) downstream from dam in Frankenmuth, 2.7 mi (4.3 km) upstream from Dead Creek, and 16 mi (26 km) upstream from mouth.

DRAINAGE AREA.--848 mi² (2,200 km²), at gaging station.

PERIOD OF RECORD.--Sediment records: May 1966 to September 1972 (discontinued).

EXTREMES.--1971-72:
Sediment concentrations: Maximum daily, 364 mg/l Apr. 18; minimum daily, 2 mg/l on many days in November and December.
Sediment discharge: Maximum daily 4,240 tons (3,850 tonnes) Apr. 18; minimum daily, 0.31 ton (0.28 tonne) Nov. 10.
Period of record:
Sediment concentrations (1966-70, 1972): Maximum daily, 535 mg/l Mar. 28, 1967; minimum daily, 1 mg/l Mar. 23-25, 31, Apr. 1, 1970.
Sediment discharge (1966-70, 1972): Maximum daily, 13,800 tons (12,500 tonnes) Mar. 28, 1967; minimum daily, 0.31 ton (0.28 tonne) Nov. 10, 1972.

REMARKS.--Flow affected by ice Jan. 6 to Mar. 21. Occasional regulation by dams upstream from station. No sediment records available for: October to December 1970; January, February 1972. More than 20 percent of daily records missing for January, February, December 1971; March 1972.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	51	9	1.2	53	7	1.0	108	2	.58
2	55	9	1.3	57	7	1.1	84	2	.45
3	54	10	1.5	64	6	1.0	92	2	.50
4	48	10	1.3	65	5	.88	93	2	.50
5	43	10	1.2	61	5	.82	88	2	.48
6	43	11	1.3	57	5	.77	91	2	.49
7	47	12	1.5	54	4	.58	104	2	.56
8	52	13	1.8	53	3	.43	114	2	.62
9	51	13	1.8	53	3	.43	123	2	.66
10	52	12	1.7	57	2	.31	157	4	1.7
11	52	11	1.5	60	2	.32	236	9	5.7
12	104	10	2.8	63	2	.34	269	7	5.1
13	18	10	.49	62	2	.33	268	5	3.6
14	37	9	.90	62	2	.33	239	5	3.2
15	61	8	1.3	62	2	.33	326	8	7.0
16	59	7	1.1	63	2	.34	588	12	19
17	54	6	.87	64	2	.35	734	13	26
18	50	7	.95	64	2	.35	568	12	18
19	51	7	.96	66	2	.36	415	11	12
20	49	7	.93	68	2	.37	428	10	12
21	48	7	.91	72	2	.39	362	9	8.8
22	58	7	1.1	76	2	.41	277	8	6.0
23	68	7	1.3	69	2	.37	211	7	4.0
24	76	7	1.4	71	2	.38	--	--	--
25	72	7	1.4	71	2	.38	--	--	--
26	70	7	1.3	71	2	.38	--	--	--
27	68	7	1.3	80	2	.43	--	--	--
28	66	8	1.4	94	2	.51	--	--	--
29	62	8	1.3	107	2	.58	--	--	--
30	59	8	1.3	114	2	.62	--	--	--
31	54	8	1.2	--	--	--	--	--	--
TOTAL	1732	--	40.31	2033	--	15.19	--	--	--

04151500 CASS RIVER AT FRANKENMUTH, MICH.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972--Continued

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1							--	--	--
2							--	--	--
3							--	--	--
4							--	--	--
5							--	--	--
6							--	--	--
7							--	--	--
8							--	--	--
9							--	--	--
10							--	--	--
11							--	--	--
12							--	--	--
13							--	--	--
14							--	--	--
15							--	--	--
16							--	--	--
17							--	--	--
18							--	--	--
19							--	--	--
20							--	--	--
21							3000	12	97
22							4980	196	2660
23							7110	340	6530
24							5460	123	1910
25							2990	61	492
26							2250	41	249
27							1830	31	153
28							1570	25	106
29							1470	20	79
30							1330	16	57
31							1220	12	40
TOTAL							--	--	--

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1130	9	27	405	10	11	203	14	7.7
2	1070	5	14	477	10	13	196	14	7.4
3	1060	4	11	580	14	22	176	14	6.7
4	1150	4	12	569	15	23	151	13	5.3
5	1170	4	13	494	14	19	134	13	4.7
6	1140	4	12	446	14	17	121	13	4.2
7	1020	5	14	433	15	18	111	12	3.6
8	763	5	10	415	15	17	100	12	3.2
9	681	5	9.2	383	16	17	102	12	3.3
10	651	5	8.8	344	17	16	103	12	3.3
11	699	2	3.8	312	17	14	88	12	2.9
12	774	6	13	284	17	13	86	12	2.8
13	925	12	30	260	18	13	96	12	3.1
14	1280	35	121	251	18	12	107	12	3.5
15	1340	27	98	259	18	13	643	78	181
16	1420	32	123	287	18	14	1020	83	229
17	2610	97	717	297	18	14	601	30	49
18	4310	364	4240	280	18	14	381	28	29
19	2590	128	956	281	18	14	280	28	21
20	1680	36	163	254	18	12	230	27	17
21	1290	17	59	220	18	11	220	27	16
22	1040	14	39	196	18	9.5	213	25	14
23	1000	13	35	175	18	8.5	225	23	14
24	990	12	32	162	17	7.4	262	20	14
25	860	11	26	147	17	6.7	324	18	16
26	735	10	20	135	17	6.2	314	16	14
27	640	10	17	125	16	5.4	261	14	9.9
28	553	10	15	114	15	4.6	212	12	6.9
29	484	10	13	106	15	4.3	180	12	5.8
30	432	10	12	104	14	3.9	179	12	5.8
31	--	--	--	183	14	6.9	--	--	--
TOTAL	35495	--	6863.6	8983	--	380.4	7319	--	704.1

04151500 CASS RIVER AT FRANKENMUTH, MICH.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972--Continued

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	188	12	6.1	68	23	4.2	175	25	12
2	184	12	6.0	95	29	7.4	155	25	10
3	179	12	5.8	152	26	11	140	25	9.5
4	170	12	5.5	128	23	7.9	126	24	8.2
5	158	12	5.1	103	21	5.8	115	24	7.5
6	140	12	4.5	90	20	4.9	107	23	6.6
7	125	15	5.1	98	19	5.0	104	23	6.5
8	115	16	5.0	122	18	5.9	119	24	7.7
9	110	17	5.0	125	18	6.1	123	26	8.6
10	130	18	6.3	118	18	5.7	107	28	8.1
11	130	19	6.7	106	19	5.4	98	30	7.9
12	206	33	20	100	20	5.4	99	32	8.6
13	217	30	18	95	21	5.4	110	35	10
14	168	25	11	110	25	7.4	124	32	11
15	229	29	18	193	31	16	115	30	9.3
16	313	40	34	136	23	8.4	100	28	7.6
17	314	35	30	172	20	9.3	92	26	6.5
18	301	32	26	152	20	8.2	99	23	6.1
19	262	31	22	128	20	6.9	98	21	5.6
20	224	30	18	109	20	5.9	91	19	4.7
21	199	28	15	96	20	5.2	81	19	4.2
22	184	27	13	154	22	9.1	77	18	3.7
23	154	26	11	574	48	74	75	18	3.6
24	128	25	8.6	1030	77	214	74	18	3.6
25	111	24	7.2	1600	76	328	73	18	3.5
26	100	23	6.2	1020	45	124	80	18	3.9
27	97	20	5.2	587	38	60	87	18	4.2
28	98	19	5.0	425	30	34	87	18	4.2
29	89	18	4.3	322	27	23	83	18	4.0
30	80	18	3.9	252	27	18	84	18	4.1
31	72	18	3.5	206	26	14	--	--	--
TOTAL	5175	--	341.0	8666	--	1045.5	3098	--	281.0

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

						PARTICLE SIZE										
						PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED										
DATE	TIME	WATER TEMPERA-TURE (°C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00
MAR. 23, 1972	1800		7510	369	7480	54	64	69	73	75	79	88	98	100		
APR. 18......	1330		4670	393	4960	69	84	91	93	94	96	98	100	--		

04159130 ST. CLAIR RIVER AT PORT HURON, MICH.

LOCATION.--Lat 42°59'19" long 82°25'29", in SE¼ sec.3, T.6 N., R.17 E., St. Clair County, at Port Huron municipal raw-water intake at Pine Grove Park at Port Huron.
DRAINAGE AREA.--222,400 mi^2 (576,000 km^2), approximately.
PERIOD OF RECORD.--Chemical analyses: October 1969 to July 1973 (discontinued).
REMARKS.--Station operated as part of the Environmental Protection Agency (EPA)national network. Weekly chemical analyses furnished by City of Port Huron Water Department. Monthly, quarterly, and semi-annual analyses by U.S. Geological Survey. Station operated by the former Federal Water Quality Administration (now EPA) during the period May 1960 to September 1969. Discharge records for St. Clair River are available from U.S. Department of Commerce, National Ocean Survey, Detroit, Mich.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	TIME	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	HARD-NESS (CA,MG) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
04...	0830	78	16	6.0	95	206	8.3
11...	0830	78	20	6.0	95	202	8.2
18...	1100	78	16	6.0	94	204	8.1
25...	0930	78	19	7.0	96	204	8.0
NOV.							
01...	0900	75	18	6.0	95	206	8.1
08...	1030	78	15	6.0	91	201	8.0
15...	0830	77	18	7.0	93	200	8.0
22...	1000	77	15	6.0	93	202	8.2
29...	0900	77	16	6.0	95	199	8.1
DEC.							
06...	0925	77	14	5.0	92	199	8.0
13...	1000	76	14	5.0	93	198	8.0
20...	0900	79	19	6.0	93	198	8.1
27...	0900	79	18	7.0	94	196	8.1
JAN.							
03...	0900	77	15	6.0	94	199	8.1
10...	0900	77	14	6.0	95	200	8.0
17...	0900	78	15	7.0	96	210	8.0
24...	0900	78	14	7.0	96	200	8.3
31...	0900	78	14	7.0	96	204	8.1
FEB.							
07...	0900	79	17	6.0	95	204	8.1
14...	0900	79	22	5.5	95	200	8.1
21...	0900	78	19	6.0	95	204	8.1
28...	0900	80	20	6.0	98	206	8.1
MAR.							
06...	0900	84	19	8.0	103	224	8.0
13...	0900	78	14	6.0	--	196	7.9
20...	0900	78	19	6.5	95	206	8.1
27...	0900	78	20	6.0	98	201	8.1
APR.							
03...	0900	78	18	7.0	97	211	8.1
10...	0900	77	23	7.0	95	199	8.1
17...	0900	75	19	5.0	95	191	8.1
24...	0900	76	17	6.0	94	189	8.1
MAY							
01...	0900	75	18	6.0	91	188	8.1
08...	0900	75	17	6.0	91	187	8.1
15...	0900	75	21	6.0	94	190	8.1
22...	0900	75	18	6.0	94	193	8.1
30...	0900	79	17	6.0	95	195	8.3
JUNE							
05...	0800	77	17	6.0	93	194	8.3
12...	0815	78	18	6.0	94	198	8.3
19...	0900	79	17	7.0	95	201	8.3
26...	0900	80	17	6.5	97	207	8.2
JULY							
03...	0900	79	16	6.5	96	164	8.3
10...	0900	75	17	6.0	96	200	8.3
17...	0900	75	17	7.0	97	202	8.3
24...	0900	77	18	8.0	95	201	8.3
31...	0900	--	--	--	--	199	--
AUG.							
07...	0900	78	16	7.0	94	196	8.3
14...	0915	79	23	7.0	94	198	8.3
21...	0830	77	17	7.0	92	200	8.3
28...	0900	78	24	7.0	95	205	8.3
SEP.							
05...	0900	77	16	7.5	94	201	8.3
11...	0900	79	23	8.0	93	199	8.3
18...	0900	79	18	7.0	94	200	8.3
25...	0900	79	22	7.0	94	203	8.3

04159130 ST. CLAIR RIVER AT PORT HURON, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L)
OCT.							
04...	--	--	.20	--	--	.05	.03
NOV.							
01...	--	--	.20	--	--	.11	.01
DEC.							
06...	3.2	.8	.10	--	.02	.17	.17
JAN.							
03...	--	--	.23	--	--	.02	.01
FEB.							
07...	--	--	.20	--	--	.10	.06
MAR.							
06...	--	--	.20	--	.06	.04	.02
APR.							
03...	--	--	.20	--	--	.01	.01
MAY							
01...	--	--	.20	--	--	.01	.01
JUNE							
05...	3.0	.6	.20	--	.06	.02	.01
JULY							
03...	--	--	.10	--	--	.01	.00
31...	--	--	.20	--	--	.03	--
SEP.							
05...	--	--	.20	.00	.00	.03	.02

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL RESI-DUE (MG/L)	PHENOLS (UG/L)	CYANIDE (CN) (MG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)
OCT.						
04...	--	--	--	0	--	--
NOV.						
01...	--	--	--	0	--	--
DEC.						
06...	122	12	134	0	.00	2
JAN.						
03...	--	--	--	1	--	--
FEB.						
07...	--	--	--	0	--	--
MAR.						
06...	140	0	140	0	--	--
APR.						
03...	--	--	--	1	--	--
MAY						
01...	--	--	--	0	--	--
JUNE						
05...	113	11	124	0	.00	0
JULY						
03...	--	--	--	--	--	--
31...	--	--	--	4	--	--
SEP.						
05...	121	19	140	4	--	--

DATE	ALDRIN (UG/L)	CHLOR-DANE (UG/L)	DDE (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	METH-OXY-CHLOR (UG/L)	TOX-APHENE (UG/L)
DEC.											
10...	.00	.0	.00	<.02	.00	<.01	.00	.00	.00	<.02	<0

04159130 ST. CLAIR RIVER AT PORT HURON, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	DELAYED COLI-FORM (COL-ONIES PER 100 ML)
OCT.							
04...	18.0	0	1	9.4	101	.1	15
11...	15.5	0	2	8.8	89	.3	13
18...	15.0	1	1	9.1	91	.5	17
25...	15.0	0	0	7.1	71	.7	60
NOV.							
01...	13.0	--	1	8.3	81	.2	12
08...	.7	0	1	10.8	76	2.5	44
15...	10.0	0	1	10.8	97	.3	B9
22...	8.3	20	43	12.3	105	.5	19
29...	7.0	0	4	12.3	102	.2	B8
DEC.							
06...	.5	0	1	12.6	89	.0	<1
13...	5.5	0	1	11.8	94	.2	B3
20...	4.4	0	1	12.9	89	.6	B1
27...	4.0	0	6	12.8	99	.5	B2
JAN.							
03...	3.3	0	3	12.9	98	.2	--
10...	2.2	0	2	13.1	96	.5	<1
17...	5.0	0	1	14.4	114	1.5	<1
24...	.2	0	2	14.0	97	.1	B1
31...	.5	0	2	14.8	103	.8	14
FEB.							
07...	.5	0	1	14.5	101	.2	B1
14...	5.0	0	1	13.8	110	.1	<1
21...	.5	20	12	14.8	103	.2	<1
28...	.5	0	2	14.6	103	.0	<1
MAR.							
06...	.5	0	2	14.3	99	2.3	<1
13...	.5	0	1	13.8	96	.8	24
20...	1.1	0	1	14.0	101	.2	B1
27...	.1	0	1	14.0	101	.2	B1
APR.							
03...	1.0	0	1	14.0	101	.3	<1
10...	1.0	0	1	14.2	102	.7	<1
17...	.5	0	2	14.0	97	.7	B3
24...	1.1	0	2	13.9	100	.4	B2
MAY							
01...	1.1	0	1	13.8	97	.5	<1
08...	5.0	2	6	13.8	103	.0	B7
15...	4.5	0	2	13.7	108	--	B4
22...	9.5	0	1	12.6	114	.8	B1
30...	10.5	0	1	12.6	114	.1	B7
JUNE							
05...	10.0	0	2	12.0	100	.7	B2
12...	11.0	0	2	11.6	105	.6	B3
19...	13.0	0	2	11.1	107	.8	B1
26...	12.0	3	6	10.7	101	--	30
JULY							
03...	15.0	2	11	10.0	104	3.0	B3
10...	15.0	0	1	12.2	127	.4	21
17...	18.0	0	1	9.9	106	.5	37
24...	18.9	0	1	9.8	100	.3	27
31...	--	--	1	--	--	--	--
AUG.							
07...	19.0	0	2	9.1	100	.3	B577
14...	19.0	0	1	9.4	103	1.2	89
21...	19.0	0	1	9.4	103	.9	B231
28...	19.0	0	1	9.4	103	.6	B26
SEP.							
05...	19.0	0	2	9.4	103	--	44
11...	19.0	0	1	9.4	103	.4	B27
18...	19.0	0	1	9.3	102	.3	192
25...	18.0	0	1	9.5	103	.3	B11

STREAMS TRIBUTARY TO ST. CLAIR RIVER

04159130 ST. CLAIR RIVER AT PORT HURON, MICH.--Continued

CHEMICAL ANALYSES, OCTOBER 1972 TO JULY 1973

DATE	TIME	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	HARD-NESS (CA,MG) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
02...	0900	79	17	7.5	95	201	8.3
10...	0900	79	19	8.0	93	198	8.3
16...	0900	79	17	8.0	94	199	8.3
24...	0900	79	20	7.0	93	201	8.3
30...	0900	79	14	6.0	92	201	8.3
NOV.							
06...	0900	79	13	7.0	93	200	8.3
13...	0900	80	17	6.0	94	199	8.3
20...	0900	78	19	6.0	95	200	8.3
27...	0900	79	17	5.5	94	202	8.2
DEC.							
04...	0900	79	17	6.0	95	202	8.2
11...	0900	78	19	7.0	94	--	8.2
18...	0900	79	18	7.0	99	204	8.1
26...	0900	78	19	6.5	95	196	8.2
JAN.							
02...	0900	78	19	6.5	96	202	8.1
08...	0900	79	18	6.0	94	203	8.1
15...	0900	78	19	7.0	94	200	8.1
22...	0900	77	16	5.0	94	195	8.1
29...	0900	79	17	6.0	94	209	8.1
FEB.							
05...	0900	77	18	6.0	93	198	8.1
12...	0900	78	19	8.0	93	206	8.1
19...	0900	78	17	6.0	94	196	8.0
26...	0900	79	18	7.0	94	202	8.1
MAR.							
05...	0900	77	19	5.0	92	194	8.0
12...	0900	78	17	5.0	94	194	8.1
19...	0900	81	12	6.0	105	211	8.1
26...	0900	78	17	6.0	99	208	7.5
APR.							
02...	0900	80	17	6.0	99	207	8.1
09...	0900	82	24	6.5	101	212	8.0
16...	0900	80	18	6.0	99	204	8.0
23...	0900	80	17	6.0	96	199	8.1
30...	0900	78	22	5.5	96	202	8.1
MAY							
07...	0900	77	18	6.0	96	202	8.1
14...	0900	77	18	6.0	95	204	8.1
21...	0900	79	15	6.0	96	205	8.1
29...	0900	76	18	6.0	95	201	8.1
JUNE							
04...	0900	77	18	6.0	96	203	8.1
11...	0900	78	21	6.0	94	201	8.1
18...	0900	78	17	6.0	95	200	8.2
25...	0900	--	--	--	--	200	--
JULY							
02...	0900	79	22	6.0	95	199	8.2

04159130 ST. CLAIR RIVER AT PORT HURON, MICH.--Continued

CHEMICAL ANALYSES, OCTOBER 1972 TO JULY 1973

DATE	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L)
OCT. 02...	--	--	.30	--	--	.02	--
NOV. 06...	--	--	.26	--	--	.01	--
DEC. 04...	--	--	.20	--	--	.03	--
JAN. 02...	3.4	.9	.30	.00	.00	.03	.02
FEB. 05...	--	--	.30	--	--	.03	--
MAR. 05...	--	--	.20	.00	.00	.02	.01
APR. 02...	--	--	.70	--	--	.04	--
MAY 07...	--	--	.20	--	--	.02	--
JUNE 04...	--	--	.30	.00	.10	.03	.01
JULY 02...	3.0	.9	.20	.03	.00	.00	.00

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL RESI-DUE (MG/L)	PHENOLS (UG/L)	CYANIDE (CN) (MG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)
OCT. 02...	--	--	--	0	--	--
NOV. 06...	--	--	--	2	--	--
DEC. 04...	107	14	121	--	--	--
JAN. 02...	117	17	134	5	.00	5
FEB. 05...	--	--	--	0	--	--
MAR. 05...	106	15	121	0	--	--
APR. 02...	--	--	--	11	--	--
MAY 07...	--	--	--	1	--	--
JUNE 04...	120	32	138	0	--	--
JULY 02...	114	34	148	1	.01	1

04159130 ST. CLAIR RIVER AT PORT HURON, MICH.--Continued

CHEMICAL ANALYSES, OCTOBER 1972 TO JULY 1973

DATE	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	DELAYED COLI-FORM (COL-ONIES PER 100 ML)
OCT.							
02...	15.0	0	1	9.8	99	.3	B8
10...	14.0	2	4	10.1	100	.3	B21
16...	12.0	1	2	10.5	103	.1	B48
24...	12.0	7	15	10.7	105	.1	B140
30...	10.0	2	6	11.2	102	.2	B31
NOV.							
06...	10.0	0	2	11.1	101	.2	B2
13...	9.0	0	5	11.5	102	.5	B9
20...	7.5	5	10	12.0	102	.6	46
27...	7.0	0	12	12.0	101	.2	B11
DEC.							
04...	5.0	2	6	12.4	100	.1	B1
11...	2.0	1	5	13.3	101	.2	B7
18...	2.0	2	7	14.6	109	.8	51
26...	2.0	3	2	13.4	100	--	B8
JAN.							
02...	2.5	0	2	13.8	104	.1	B70
08...	.6	0	3	14.0	100	.4	B3
15...	1.0	0	1	14.1	102	.1	B1
22...	1.0	0	3	13.9	101	.1	B1
29...	1.0	20	40	13.9	100	.1	42
FEB.							
05...	1.0	1	6	14.0	101	.1	B25
12...	1.0	0	2	14.0	101	.1	B9
19...	1.0	1	4	14.4	104	.4	B1
26...	1.0	0	10	14.6	107	.1	<1
MAR.							
05...	2.2	0	1	14.0	103	.2	B264
12...	1.0	0	1	13.9	100	.1	<1
19...	1.4	60	150	14.3	105	.4	B25
26...	4.0	4	11	14.3	112	.3	<1
APR.							
02...	4.0	2	10	13.6	101	.1	B1
09...	4.4	5	20	13.0	104	.7	B9
16...	4.5	0	5	13.1	105	.5	B3
23...	5.0	0	2	13.5	109	.8	B5
30...	7.2	0	4	12.5	105	.3	B4
MAY							
07...	7.0	0	1	12.6	106	--	<1
14...	7.7	6	3	10.8	93	.1	B30
21...	9.5	0	1	11.9	107	.5	B3
29...	9.0	0	1	11.7	104	.3	B6
JUNE							
04...	10.0	0	3	11.8	107	.2	B6
11...	13.0	0	1	10.9	108	1.2	B4
18...	13.0	0	1	10.6	105	1.2	B31
25...	--	--	--	--	--	--	<1
JULY							
02...	11.0	0	2	10.5	97	.0	B5

04160900 CLINTON RIVER NEAR DRAYTON PLAINS, MICH.

LOCATION.--Lat 42°39'37", long 83°23'25", in NE¼ sec.21, T.3 N., R.9 E., Oakland County, temperature recorder at gaging station on left bank, 14 ft (4 m) downstream from bridge on State Highway 59, 1.0 mi (1.6 km) downstream from State fish hatchery, and 2.0 mi (3.2 km) south of Drayton Plains.

DRAINAGE AREA.--79.2 mi^2 (205 km^2).

PERIOD OF RECORD.--Water temperatures: October 1961 to September 1973.

EXTREMES.--1971-72:

Water temperatures: Maximum, 28.5°C July 20-24; minimum, 4.0°C on one or more days during Jan. 6 to Feb. 10.

1972-73:

Water temperatures: Maximum, 23.5°C July 10, 11; minimum, 2.0°C on many days in December and January.

Period of record:

Water temperatures (1961-73): Maximum, 30.5°C July 1, 1963, July 26, 1964; minimum, freezing point on many days in winter periods in 1962 and 1963.

REMARKS.--No temperature records available for May 1967 to July 1968. Periods of missing record due to clock stoppage, recorded temperature ranges: Dec. 2-13, 1971, 5.5°C to 8.5°C; Jan. 6 to Feb. 10, 1972, 4.0°C to 4.5°C, Sept. 10 to Oct. 2, 15.0°C to 23.0°C; Oct. 2 to Nov. 9, 6.5°C to 17.0°C; Jan. 31 to Feb. 7, 1973, 3.0°C to 3.5°C; Feb. 7 to Mar. 6, 3.5°C to 5.0°C; Mar. 27 to Apr. 27, 6.0°C 13.5°C.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	22.0	17.0	15.5	13.5	6.5	6.0	4.5	4.5	---	---	5.5	5.0
2	23.0	18.5	14.5	14.0	---	---	4.5	4.5	---	---	5.0	5.0
3	23.0	19.0	14.0	12.0	---	---	4.5	4.5	---	---	5.0	5.0
4	22.0	19.0	12.0	11.0	---	---	4.5	4.5	---	---	5.0	5.0
5	21.0	16.5	11.0	10.5	---	---	4.5	4.5	---	---	5.0	4.5
6	20.0	16.5	11.0	10.0	---	---	---	---	---	---	4.5	4.5
7	17.0	14.0	10.0	9.5	---	---	---	---	---	---	5.0	4.5
8	15.5	13.5	9.5	9.0	---	---	---	---	---	---	5.0	4.5
9	15.5	14.5	9.0	9.0	---	---	---	---	---	---	4.5	4.5
10	16.0	14.5	9.5	9.0	---	---	---	---	---	---	6.0	4.5
11	15.5	14.0	9.5	9.0	---	---	---	---	4.0	4.0	6.5	5.0
12	15.0	13.0	10.0	9.5	---	---	---	---	4.5	4.0	7.0	5.5
13	15.0	13.5	10.0	9.5	---	---	---	---	4.5	4.5	6.5	5.5
14	15.5	14.0	10.0	9.5	5.5	5.5	---	---	5.0	4.5	5.5	5.0
15	16.5	14.0	11.0	9.5	6.0	5.5	---	---	5.0	4.5	5.0	5.0
16	17.0	15.0	11.0	10.0	6.0	5.5	---	---	4.5	4.5	5.0	5.0
17	17.0	15.5	11.0	10.0	5.5	5.0	---	---	5.0	4.5	5.0	5.0
18	17.0	15.0	11.5	11.0	5.0	5.0	---	---	5.0	5.0	5.5	5.0
19	18.0	15.5	11.5	9.5	5.0	5.0	---	---	5.0	4.5	6.5	5.0
20	18.0	15.5	9.5	9.0	5.0	5.0	---	---	4.5	4.5	6.5	5.5
21	18.0	16.5	9.0	8.5	5.0	5.0	---	---	4.5	4.5	6.5	5.5
22	18.0	17.0	8.5	8.5	5.0	5.0	---	---	4.5	4.5	6.5	5.5
23	17.0	17.0	8.5	8.0	5.0	5.0	---	---	4.5	4.5	5.5	5.0
24	17.0	16.5	8.0	8.0	5.0	5.0	---	---	4.5	4.5	6.5	5.0
25	16.5	16.0	8.0	7.0	5.0	5.0	---	---	4.5	4.5	6.5	5.5
26	16.0	15.5	7.0	7.0	5.0	5.0	---	---	4.5	4.5	7.0	5.5
27	17.0	15.5	7.0	7.0	5.0	5.0	---	---	5.0	5.0	8.0	6.0
28	17.0	15.5	7.0	7.0	5.0	5.0	---	---	5.0	5.0	8.0	6.5
29	16.0	14.5	7.0	6.5	5.0	5.0	---	---	5.5	5.0	8.0	6.5
30	16.5	14.5	6.5	6.5	5.0	4.5	---	---	---	---	6.5	6.0
31	16.5	15.5	---	---	4.5	4.5	---	---	---	---	6.5	6.0
MONTH	23.0	13.0	15.5	6.5	---	---	---	---	---	---	8.0	4.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.5	6.0	14.5	13.0	18.0	15.5	24.0	21.0	26.0	24.0	25.5	23.5
2	6.5	5.5	15.0	13.5	20.5	16.5	24.5	22.0	25.5	23.5	25.5	21.0
3	8.0	6.0	14.0	12.0	21.0	18.5	24.0	20.5	23.5	22.0	22.0	19.5
4	8.5	7.0	13.5	13.0	22.0	19.5	23.0	19.5	24.0	20.5	21.5	19.0
5	9.0	7.0	15.0	13.0	22.0	19.0	21.0	18.5	24.0	20.0	21.0	19.5
6	8.5	8.0	15.5	13.5	22.0	20.0	21.0	18.5	24.0	21.5	22.0	19.0
7	8.0	6.0	14.5	13.0	23.5	19.5	21.5	19.0	21.5	20.5	21.5	18.5
8	6.5	5.5	13.0	12.0	23.5	20.0	22.0	20.0	20.5	21.5	21.0	20.0
9	8.5	5.5	14.0	11.5	23.0	19.5	22.0	20.5	19.5	18.5	21.0	18.5
10	8.5	6.0	15.0	12.0	20.0	16.0	24.5	21.0	21.0	17.0	---	---
11	9.5	7.0	16.0	13.0	20.0	16.0	26.0	23.0	21.0	19.0	---	---
12	9.5	8.5	17.0	13.5	19.5	18.0	26.0	23.5	21.5	19.5	---	---
13	11.0	9.0	16.5	14.0	20.5	18.0	24.5	23.0	24.0	20.0	---	---
14	9.5	9.5	16.0	15.0	23.0	20.0	24.5	23.0	24.0	21.5	---	---
15	9.5	9.0	16.5	15.0	23.5	21.0	24.5	23.5	24.0	21.0	---	---
16	9.0	9.0	16.5	15.0	22.0	19.5	24.5	23.0	23.5	20.5	---	---
17	11.0	8.5	19.5	15.5	21.5	18.0	26.0	23.5	23.5	21.0	---	---
18	12.0	9.5	20.5	18.0	23.5	18.5	26.0	25.0	25.5	23.0	---	---
19	11.0	9.5	21.0	19.0	24.0	20.0	24.5	30.5	26.0	23.5	---	---
20	10.5	9.5	21.0	19.5	24.0	22.0	28.5	31.5	26.0	23.0	---	---
21	10.0	9.5	21.5	20.5	23.5	19.5	28.5	26.5	25.5	23.5	---	---
22	9.5	9.5	21.5	20.5	19.0	16.5	28.5	27.0	25.5	24.0	---	---
23	9.5	9.0	21.5	20.5	16.5	15.0	28.5	27.0	25.5	24.0	---	---
24	9.0	9.0	23.0	21.0	16.0	15.0	28.5	26.5	25.0	24.0	---	---
25	10.5	8.5	23.0	21.5	18.5	15.0	27.0	25.5	25.5	23.5	---	---
26	11.0	9.5	21.5	20.5	21.0	17.0	25.5	29.0	25.5	24.5	---	---
27	11.5	9.5	22.0	19.5	22.0	19.5	24.0	21.5	25.0	23.5	---	---
28	13.5	10.5	22.0	19.5	23.0	20.0	24.5	21.0	25.0	21.5	---	---
29	13.5	11.5	23.0	20.0	23.0	21.5	25.5	21.5	25.0	22.0	---	---
30	14.0	12.0	22.0	18.5	22.0	21.0	26.0	23.0	25.5	22.0	---	---
31	---	---	18.5	16.5	---	---	26.5	23.5	25.5	23.0	---	---
MONTH	14.0	5.5	23.0	11.5	24.0	15.0	28.5	18.5	26.0	17.0	---	---
YEAR	28.5	4.0										

STREAMS TRIBUTARY TO LAKE ST. CLAIR

04160900 CLINTON RIVER NEAR DRAYTON PLAINS, MICH.-Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	4.0	4.0	3.0	3.0	---	---	---	---
2	---	---	---	---	4.0	3.5	3.0	3.0	---	---	---	---
3	---	---	---	---	3.5	3.5	3.0	2.0	---	---	---	---
4	---	---	---	---	3.5	3.5	2.0	2.0	---	---	---	---
5	---	---	---	---	3.5	3.5	2.0	2.0	---	---	---	---
6	---	---	---	---	3.5	3.5	2.0	2.0	---	---	---	---
7	---	---	---	---	3.5	3.5	2.0	2.0	---	---	5.0	4.5
8	---	---	---	---	3.5	3.5	2.0	2.0	---	---	5.5	4.5
9	---	---	---	---	3.5	3.5	2.0	2.0	---	---	5.5	5.0
10	---	---	6.5	6.5	3.5	3.5	2.0	2.0	---	---	5.0	5.0
11	---	---	6.5	6.0	3.5	3.0	2.0	2.0	---	---	5.5	5.0
12	---	---	6.0	6.0	3.0	3.0	2.0	2.0	---	---	6.0	5.5
13	---	---	6.0	6.0	3.0	3.0	2.0	2.0	---	---	5.5	5.5
14	---	---	6.0	6.0	3.0	3.0	2.0	2.0	---	---	5.5	5.5
15	---	---	6.0	6.0	3.0	3.0	2.0	2.0	---	---	6.5	5.5
16	---	---	6.0	6.0	3.0	3.0	2.0	2.0	---	---	6.5	6.0
17	---	---	6.0	5.5	3.0	3.0	2.0	2.0	---	---	6.0	5.5
18	---	---	5.5	5.5	3.0	3.0	2.0	2.0	---	---	5.5	5.5
19	---	---	5.5	5.5	3.0	3.0	2.0	2.0	---	---	5.5	5.5
20	---	---	5.5	5.5	2.0	2.0	2.0	2.0	---	---	5.5	5.0
21	---	---	5.5	5.5	2.0	2.0	2.0	2.0	---	---	5.0	4.5
22	---	---	5.5	5.0	2.0	2.0	2.0	2.0	---	---	5.0	4.5
23	---	---	5.0	5.0	2.0	2.0	2.0	2.0	---	---	6.0	5.0
24	---	---	5.0	5.0	2.0	2.0	2.0	2.0	---	---	6.5	5.5
25	---	---	5.0	5.0	2.0	2.0	3.0	2.0	---	---	6.5	6.5
26	---	---	5.0	4.5	2.0	2.0	3.0	3.0	---	---	7.0	6.0
27	---	---	4.5	4.5	2.0	2.0	3.0	3.0	---	---	---	---
28	---	---	4.5	4.0	2.0	2.0	3.0	3.0	---	---	---	---
29	---	---	4.0	4.0	2.0	2.0	3.0	3.0	---	---	---	---
30	---	---	4.0	4.0	2.0	2.0	---	---	---	---	---	---
31	---	---	---	---	2.0	2.0	---	---	---	---	---	---
MONTH	---	---	---	---	4.0	2.0	3.0	2.0	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	13.0	12.0	14.5	14.5	20.0	19.5	16.0	16.0	20.0	20.0
2	---	---	14.0	13.0	16.5	14.5	21.0	20.0	18.0	16.0	20.0	20.0
3	---	---	14.0	11.5	16.5	16.5	21.0	20.5	19.0	18.0	20.0	19.5
4	---	---	11.5	11.0	16.5	16.0	21.0	21.0	19.0	18.5	19.0	19.0
5	---	---	13.0	11.0	18.0	16.5	21.0	21.0	19.5	19.0	19.5	18.5
6	---	---	13.0	12.0	18.0	17.0	22.0	21.0	20.0	19.5	19.5	19.5
7	---	---	13.0	12.0	16.5	17.0	22.0	22.0	20.0	20.0	19.5	19.0
8	---	---	13.5	13.0	18.0	17.0	23.0	22.0	20.0	20.0	19.0	18.5
9	---	---	14.5	13.5	18.0	17.0	23.0	23.0	20.0	20.0	18.5	18.0
10	---	---	14.5	13.5	18.0	17.0	23.5	23.5	20.0	20.0	18.0	17.0
11	---	---	13.5	13.5	18.0	18.0	23.5	23.0	20.0	19.5	18.0	18.0
12	---	---	13.5	13.0	18.5	18.0	23.0	21.5	19.5	19.0	18.0	16.5
13	---	---	13.5	13.0	19.0	18.5	21.5	21.0	19.0	19.0	16.5	16.5
14	---	---	13.0	13.0	19.0	18.5	21.0	20.5	19.0	19.0	16.0	15.5
15	---	---	13.0	12.0	19.0	19.0	20.5	20.5	19.0	18.0	16.0	15.5
16	---	---	13.0	12.0	19.0	19.0	20.5	20.5	18.5	18.0	15.5	15.0
17	---	---	12.0	11.5	19.0	18.5	21.0	20.5	18.5	18.5	15.0	14.0
18	---	---	13.5	11.5	18.5	18.0	21.0	20.5	19.0	18.5	14.0	13.5
19	---	---	13.5	13.0	18.5	18.0	21.0	21.0	19.0	19.0	13.5	13.5
20	---	---	14.5	13.5	18.5	18.5	21.0	20.5	19.5	19.0	14.0	13.5
21	---	---	14.5	14.0	18.5	18.5	20.5	20.0	19.5	18.5	14.0	13.5
22	---	---	14.5	14.0	18.5	18.5	20.0	19.5	18.5	18.0	14.5	13.5
23	---	---	14.0	14.0	18.5	18.5	19.5	18.5	18.0	18.0	14.5	14.0
24	---	---	14.0	14.0	19.0	18.5	18.5	18.0	18.0	17.0	14.5	13.5
25	---	---	14.0	14.0	19.5	19.0	19.0	18.0	17.0	17.0	15.0	14.0
26	---	---	14.5	14.0	20.5	19.5	19.0	18.5	18.5	17.0	16.0	15.0
27	---	---	14.5	14.0	20.5	20.0	18.5	17.0	19.0	18.5	16.0	15.5
28	12.0	11.0	14.5	14.0	20.0	20.0	17.0	17.0	19.5	19.0	16.0	15.5
29	12.0	11.0	14.5	14.0	20.0	20.0	17.0	17.0	20.0	19.5	15.5	15.0
30	12.0	11.0	14.0	14.0	20.0	19.5	17.0	17.0	20.0	20.0	15.0	13.5
31	---	---	14.5	14.0	---	---	17.0	16.0	20.0	20.0	---	---
MONTH	---	---	14.5	11.0	20.5	14.5	23.5	16.0	20.0	16.0	20.0	13.5
YEAR	23.5	2.0										

04165700 DETROIT RIVER AT DETROIT, MICH.

LOCATION.--Lat 42°20'50", long 82°57'31", in T.2 S., R.13 E., Wayne County, at Detroit municipal raw-water intake at Water Works Park at Detroit.

DRAINAGE AREA.--22[illegible],800 mi² (592,600 km²), approximately.

PERIOD OF RECORD.--Chemical analyses: October 1969 to July 1973 (discontinued).

REMARKS.--Station operated as part of the Environmental Protection Agency (EPA) national network. Weekly chemical analyses furnished by the City of Detroit Water Department. Weekly specific conductance and monthly, quarterly, and semi-annual parameters analyzed by U.S. Geological Survey. Station operated by the former Federal Water Quality Administration (now EPA) during the period November 1957 to September 1969. Discharge records for Detroit River are available from U.S. Department of Commerce, National Ocean Survey, Detroit, Michigan.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	TIME	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	TOTAL FILT-RABLE RESIDUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL RESI-DUE (MG/L)	HARD-NESS (CA,MG) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT.									
04...	0815	80	15	8.0	124	8	132	97	215
11...	0800	81	14	7.0	123	12	135	99	214
18...	0800	80	15	8.0	122	11	133	98	212
NOV.									
01...	0930	80	15	9.0	121	6	127	97	212
08...	0800	80	14	7.0	116	16	132	100	209
15...	0800	79	14	8.0	118	8	126	94	211
22...	0800	80	13	8.0	119	18	137	97	213
29...	0900	80	14	7.0	123	7	130	97	207
DEC.									
06...	0800	79	14	7.0	114	21	135	98	207
13...	0800	79	15	7.0	120	14	134	97	206
20...	0800	80	14	7.0	119	16	135	96	208
27...	0900	79	14	7.0	119	8	127	96	202
JAN.									
03...	0830	78	15	8.0	126	8	134	96	207
10...	0800	79	15	10	135	5	140	97	208
17...	0800	80	17	8.0	116	5	121	98	216
24...	0930	79	14	9.0	126	0	126	96	208
31...	0800	81	15	9.0	125	1	126	100	217
FEB.									
07...	0800	81	16	8.0	128	2	130	100	213
14...	0800	82	15	8.0	112	10	122	103	221
21...	0800	79	14	9.0	123	1	124	95	206
28...	0800	80	14	8.0	119	1	120	97	209
MAR.									
06...	0800	80	16	10	111	3	114	98	219
13...	0730	82	17	9.0	127	5	132	101	224
20...	0800	78	13	8.0	119	1	120	96	206
27...	0830	77	15	8.0	129	5	134	95	211
APR.									
02...	0810	78	16	8.0	121	6	127	96	210
10...	0730	80	17	9.0	124	10	134	96	213
17...	0830	76	16	8.0	112	2	114	93	207
24...	0830	74	17	8.0	126	20	146	93	209
MAY									
01...	0800	73	16	7.0	116	6	122	90	194
08...	0830	77	15	8.0	118	4	122	94	202
15...	0830	74	15	8.0	117	5	122	92	197
22...	0800	77	14	8.0	116	6	122	95	206
29...	0800	77	15	7.0	115	5	120	95	204
JUNE									
05...	0800	78	16	7.0	113	4	117	94	203
12...	0800	75	16	7.0	125	7	132	96	206
19...	0815	79	16	8.0	131	6	137	96	208
26...	0800	81	16	7.0	111	23	134	97	209
JULY									
03...	0800	79	17	9.0	128	9	137	99	212
10...	1030	79	16	8.0	129	9	138	97	211
17...	0830	79	15	9.0	138	17	155	97	221
24...	0830	79	15	9.0	129	6	135	97	212
AUG.									
07...	0900	80	16	8.0	120	18	138	96	208
14...	0930	79	16	8.0	122	23	145	95	208
21...	0800	80	15	8.0	121	11	132	96	208
28...	0800	80	16	9.0	119	10	129	96	210
SEP.									
04...	1000	79	15	10	118	4	122	96	209
11...	0750	79	15	8.0	120	14	134	96	206
18...	0800	77	16	8.0	130	12	142	96	208
25...	0800	79	16	7.0	131	8	139	96	208

04165700 DETROIT RIVER AT DETROIT, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	DELAYED COLI-FORM (COL-ONIES PER 100 ML)
OCT.									
04...	8.1	19.0	0	10	8.9	97	.4	9	B13
11...	8.1	17.5	0	15	9.2	98	.4	20	31
18...	8.1	17.0	0	10	9.4	99	.2	10	B8
NOV.									
01...	8.2	17.2	0	15	9.1	96	--	11	B6
08...	8.2	13.0	0	25	11.0	106	.6	14	52
15...	8.2	12.2	0	15	11.2	106	.4	9	B8
22...	8.2	11.0	0	45	11.6	106	1.3	8	34
29...	8.0	8.5	0	25	12.2	105	1.6	14	23
DEC.									
06...	8.0	3.0	0	20	13.0	98	.3	8	B9
13...	8.1	8.5	0	20	12.3	107	1.0	9	B7
20...	8.1	6.2	0	35	13.0	106	.9	10	24
27...	8.2	6.5	0	9	13.1	106	.8	12	B7
JAN.									
03...	8.2	5.2	0	15	13.3	106	--	10	B11
10...	8.0	3.5	0	9	13.9	106	.8	10	B2
17...	8.1	3.1	0	4	14.4	108	.8	11	<1
24...	8.1	3.5	0	2	13.5	102	1.0	8	<1
31...	8.2	3.0	0	3	14.9	112	.3	11	B2
FEB.									
07...	8.1	2.8	0	2	14.2	106	--	7	<1
14...	8.1	3.4	0	2	14.5	110	1.0	7	<1
21...	8.1	3.5	0	2	14.5	110	.4	11	<1
28...	8.1	3.5	0	10	14.1	107	.7	12	B5
MAR.									
06...	8.1	3.0	0	3	14.6	110	.5	10	<1
13...	8.1	3.8	0	3	14.5	110	.7	8	<1
20...	8.1	3.5	0	2	14.5	110	.7	8	<1
27...	8.1	4.0	0	8	14.6	113	1.9	8	B43
APR.									
02...	8.0	4.8	0	9	13.2	104	.9	10	B2
10...	8.0	5.2	0	20	13.2	105	.9	9	B1
17...	8.1	6.5	0	8	12.7	105	2.7	10	<1
24...	8.1	6.3	0	45	12.8	106	.7	13	B6
MAY									
01...	8.1	7.5	0	6	12.5	105	.8	9	B1
08...	8.3	11.3	0	7	11.0	101	.7	15	B2
15...	8.3	9.5	0	8	12.4	110	.9	16	B1
22...	8.5	13.8	0	6	12.3	118	.4	9	B4
29...	8.3	16.5	0	7	10.1	105	1.3	12	B5
JUNE									
05...	8.4	15.0	0	8	10.7	107	.7	10	B1
12...	8.3	15.5	0	10	10.0	100	.9	15	B14
19...	8.3	17.2	0	10	9.7	102	.4	9	B3
26...	8.2	15.5	0	15	10.0	100	.7	9	B9
JULY									
03...	8.2	17.9	0	15	8.9	97	.5	9	B23
10...	8.1	19.5	0	15	9.5	108	1.1	16	150
17...	8.2	20.4	0	15	8.5	94	.5	9	B18
24...	8.4	22.0	0	15	8.8	102	.1	14	B6
AUG.									
07...	8.2	21.0	0	15	8.0	92	.1	9	B15
14...	8.1	20.8	0	20	8.1	94	.2	10	B70
21...	8.2	22.5	0	15	8.4	101	.3	9	20
28...	8.3	22.8	0	20	8.0	96	.5	9	25
SEP.									
04...	8.3	21.6	0	20	8.5	101	.3	12	B82
11...	8.3	20.2	0	15	8.8	99	.4	8	34
18...	8.2	20.4	0	20	8.6	106	.5	7	29
25...	8.3	19.7	0	15	8.7	97	.2	10	49

04165700 DETROIT RIVER AT DETROIT, MICH.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L)
OCT.								
04...	--	--	.20	--	--	--	.04	.01
NOV.								
01...	--	--	.20	--	--	--	.06	.02
DEC.								
06...	4.1	.8	.10	--	.01	.14	.05	.03
JAN.								
03...	--	--	.30	--	--	--	.20	.13
FEB.								
07...	--	--	.20	--	--	--	.04	.04
MAR.								
06...	--	--	.20	--	.00	.12	.07	.03
APR.								
02...	--	--	.30	--	--	--	.03	.01
MAY								
01...	--	--	.30	--	--	--	.04	.02
JUNE								
05...	4.0	.6	.20	--	.06	.14	.02	.01
JULY								
03...	--	--	.20	--	--	--	.02	.01
AUG.								
07...	--	--	.20	--	--	--	.27	--
SEP.								
04...	--	--	.20	.01	.11	.24	.01	.01

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL RESI-DUE (MG/L)	TUR-BID-ITY (JTU)	PHENOLS (UG/L)	CYANIDE (CN) (MG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)
OCT.							
04...	--	--	--	--	0	--	--
NOV.							
01...	--	--	--	--	0	--	--
DEC.							
06...	110	26	144	--	4	.00	1
JAN.							
03...	--	--	--	--	3	--	--
FEB.							
07...	--	--	--	--	1	--	--
MAR.							
06...	--	12	132	--	6	--	--
APR.							
02...	--	--	--	--	0	--	--
MAY							
01...	--	--	--	--	1	--	--
JUNE							
05...	--	28	144	--	0	.00	0
JULY							
03...	--	--	--	--	--	--	--
AUG.							
07...	--	--	--	2	2	--	--
SEP.							
04...	--	33	162	4	9	--	--

DATE	ALDRIN (UG/L)	CHLOR-DANE (UG/L)	DDE (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	METH-OXY-CHLOR (UG/L)	TOX-APHENE (UG/L)
DEC.											
06...	.00	.0	.00	<.02	.00	<.01	.00	.00	.00	<.02	<0
JUNE											
05...	.00	.0	<.01	<.04	<.01	<.02	.00	.00	.00	<.02	<0

04165700 DETROIT RIVER AT DETROIT, MICH.--Continued

CHEMICAL ANALYSES, OCTOBER 1972 TO JULY 1973

DATE	TIME	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	TOTAL FILT-RABLE RESIDUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL RESI-DUE (MG/L)	HARD-NESS (CA,MG) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT.									
02...	0830	78	15	7.0	131	3	134	96	207
09...	0815	79	14	8.0	123	7	130	96	206
16...	0800	80	15	7.0	127	10	137	95	206
23...	0745	78	16	10	129	10	139	96	208
30...	0900	79	17	8.0	124	8	132	97	209
NOV.									
06...	0815	78	15	9.0	115	11	126	97	210
13...	0900	78	15	8.0	125	7	132	97	208
20...	0800	80	16	8.0	121	22	143	97	210
27...	0815	83	18	10	128	21	149	106	230
DEC.									
04...	0815	79	15	8.0	121	14	135	97	209
19...	0800	78	16	10	124	10	134	96	207
26...	0800	76	16	8.0	116	7	123	95	204
JAN.									
02...	0800	77	14	7.0	124	10	134	96	203
08...	0800	77	17	9.0	122	15	137	98	218
16...	0800	79	15	10	121	4	125	99	213
22...	0800	75	14	9.0	116	4	120	94	198
30...	0730	76	15	7.0	109	24	133	93	199
FEB.									
05...	0800	78	16	7.0	113	4	117	95	203
12...	0745	79	16	9.0	120	3	123	99	212
19...	0815	80	16	7.0	100	3	103	99	209
26...	0900	81	16	8.0	118	6	124	100	217
MAR.									
05...	0800	79	16	7.0	114	--	--	99	212
12...	0900	76	18	8.0	112	9	121	97	202
26...	0900	81	17	8.0	123	33	156	103	215
APR.									
02...	0800	82	19	9.0	124	24	148	101	224
09...	0800	84	18	9.0	111	28	139	111	236
16...	0830	82	17	10	129	--	--	105	221
23...	0800	80	15	7.0	122	9	131	100	208
30...	0800	79	15	7.0	118	10	128	96	208
MAY									
07...	0800	85	13	9.0	139	--	--	107	231
14...	0945	79	17	7.0	119	--	--	99	206
21...	0850	82	18	8.0	121	--	--	102	224
28...	0800	79	16	7.0	114	--	--	98	207
JUNE									
04...	0930	79	16	8.0	133	--	--	98	214
11...	0845	80	17	9.0	123	--	--	102	217
18...	0810	78	16	8.0	148	--	--	99	210
25...	0800	79	17	9.0	119	--	--	98	209
JULY									
02...	0800	--	17	--	124	32	156	--	210

04165700 DETROIT RIVER AT DETROIT, MICH.--Continued

CHEMICAL ANALYSES, OCTOBER 1972 TO JULY 1973

DATE	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	DELAYED COLI-FORM (COL-ONIES PER 100 ML)
OCT.									
02...	8.2	16.4	0	15	9.2	96	.5	8	B6
09...	8.3	16.0	0	15	9.5	99	.8	11	B11
16...	8.1	13.5	0	15	10.6	104	.5	6	B16
23...	8.2	12.6	0	10	11.2	108	.6	8	--
30...	8.2	12.0	0	15	11.0	100	1.9	11	B16
NOV.									
06...	8.1	12.0	0	10	11.1	109	.4	8	B6
13...	8.1	10.8	0	15	11.3	104	.6	8	B18
20...	8.0	4.7	0	40	12.2	107	1.6	14	24
27...	8.2	7.5	0	20	12.7	100	1.7	12	B18
DEC.									
04...	8.1	6.5	0	15	12.8	107	1.3	8	B4
19...	8.1	3.0	0	15	14.0	104	.7	7	B2
26...	8.0	3.9	0	4	13.7	105	1.4	7	B1
JAN.									
02...	8.2	2.0	0	10	13.4	100	.6	8	B2
08...	8.0	3.0	0	15	14.1	108	1.8	11	B14
16...	8.1	3.0	0	3	14.0	107	.5	11	<1
22...	8.1	3.5	0	3	14.1	109	1.7	10	<1
30...	7.8	3.0	0	30	14.0	107	.8	9	B1
FEB.									
05...	8.1	2.9	0	10	14.2	100	.3	7	<1
12...	8.0	2.2	0	8	14.3	107	1.2	9	<1
19...	8.0	2.5	0	3	14.4	109	.4	10	<1
26...	8.1	.8	0	7	14.2	100	.4	7	B1
MAR.									
05...	8.2	3.5	0	3	13.7	104	.8	8	<1
12...	8.1	5.8	0	8	13.2	106	.9	9	23
26...	8.0	2.8	0	55	13.3	101	2.3	8	B7
APR.									
02...	8.2	7.2	0	35	12.5	105	.7	9	<1
09...	8.1	4.5	0	55	12.1	97	.8	9	B3
16...	8.2	7.0	0	35	12.7	107	.4	10	B250
23...	8.2	8.2	0	15	12.2	105	1.5	7	B3
30...	8.1	7.6	0	10	11.9	102	.6	9	<1
MAY									
07...	8.2	11.2	0	15	11.3	105	.9	12	B12
14...	8.2	11.5	0	9	11.1	105	.8	9	B2
21...	8.3	10.3	0	8	11.3	103	.9	11	<1
28...	8.1	13.0	0	5	10.4	99	.6	8	B17
JUNE									
04...	8.5	15.0	0	10	10.9	110	.6	7	B12
11...	8.3	18.5	0	10	11.2	123	1.8	12	<1
18...	8.2	18.7	0	10	9.3	102	.7	13	B30
25...	8.6	19.0	0	8	9.5	104	.6	11	B9
JULY									
02...	--	--	--	3	--	--	--	--	--

04165700 DETROIT RIVER AT DETROIT, MICH.--Continued

CHEMICAL ANALYSES, OCTOBER 1972 TO JULY 1973

DATE	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED PHOSPHORUS (P) (MG/L)
OCT.								
02...	--	--	.20	--	--	--	.02	--
NOV.								
06...	--	--	.20	--	--	--	.42	--
DEC.								
04...	--	--	.20	--	--	--	.13	--
JAN.								
02...	4.1	.1	.20	.00	.00	.00	.14	.03
FEB.								
05...	--	--	.30	--	--	--	.01	--
MAR.								
05...	--	--	.30	.00	.01	.00	.05	.03
APR.								
02...	--	--	1.0	--	--	--	.07	--
MAY								
07...	--	--	.30	--	--	--	.01	--
JUNE								
04...	--	--	.20	.01	.08	.23	.59	.52
JULY								
02...	4.6	1.0	.10	.01	.04	.10	.00	.00

DATE	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) (70300)	TOTAL NONFILTRABLE RESIDUE (MG/L) (00530)	TOTAL RESIDUE (MG/L) (00500)	TURBIDITY (JTU) (00070)	PHENOLS (UG/L) (32730)	CYANIDE (CN) (MG/L) (00720)	DISSOLVED SELENIUM (SE) (UG/L) (01145)
OCT.							
02...	--	--	--	4	8	--	--
NOV.							
06...	--	--	--	5	3	--	--
DEC.							
04...	--	--	--	9	7	--	--
JAN.							
02...	--	19	140	5	8	.00	2
FEB.							
05...	--	--	--	4	2	--	--
MAR.							
05...	--	6	129	1	2	--	--
APR.							
02...	--	--	--	10	4	--	--
MAY							
07...	--	--	--	4	3	--	--
JUNE							
04...	--	24	150	7	5	--	--
JULY							
02...	124	32	156	3	1	.00	--

04166630 JOHNSON DRAIN NEAR BROOKVILLE, MICH.

LOCATION.--Lat 42°22'34", long 083°33'18", in SE¼ sec.24, T.1 S., R.7 E., Washtenaw County, at Napier Rd., 1.2 mi (1.9 km) east of Brookville, 10 mi (16 km) northeast of Ann Arbor, and 5.9 mi (9.5 km) upstream from Middle River Rouge.
DRAINAGE AREA.--11.5 mi^2 (29.8 km^2).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG., 1971 17...	1240	.70	.01	.46	.03	.00	632	7.7	21.0
OCT. 20...	1115	.52	.02	.38	.04	.03	625	8.6	12.5
DEC. 14...	0935	.16	.01	.38	.04	.03	790	7.7	1.0
MAR., 1972 08...	1400	.17	.03	.58	.12	.11	660	7.9	.5
APR. 24...	1345	.12	.01	.22	.03	.03	740	8.6	7.0
JUNE 20...	1200	.09	.02	.36	.05	.05	675	8.3	19.0
AUG. 23...	1445	.05	.02	.71	.11	.03	640	7.7	19.0
OCT. 31...	1430	.26	.00	.46	.06	.05	850	7.9	6.0
JAN., 1973 05...	0940	1.7	.01	.21	.08	.06	390	8.1	.0
MAR. 14...	1230	.26	.01	.64	.09	.04	520	7.5	5.5
MAY 10...	1035	.14	.00	.03	.10	.01	590	7.9	15.0
JULY 09...	1310	.72	.01	1.1	.10	.07	740	7.5	21.5

DATE	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	COM-PLETE COLI-FORM (MPN)	FECAL COLI-FORM (EC BROTH) (MPN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	AIR TEMPER-ATURE (DEG C)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
AUG., 1971 17...	6.5	75	1.3	39000	11000	.0	30.0	--
OCT. 28...	3.2	32	1.6	21000	2800	.0	17.5	--
DEC. 14...	11.9	86	1.4	24000	<300	.0	.0	0
MAR., 1972 08...	12.8	90	.2	11000	2400	.0	-5.0	1
APR. 24...	13.0	109	4.9	930	430	.0	18.0	0
JUNE 20...	7.5	83	2.4	43000	43000	.0	26.0	--
AUG. 23...	6.5	72	3.1	24000	24000	.0	25.0	--
OCT. 31...	10.3	85	2.2	7500	<300	.0	8.0	--
JAN., 1973 05...	11.9	84	1.7	700	400	.0	-5.0	1
MAR. 14...	10.2	84	2.6	15000	2400	.0	8.0	0
MAY 10...	9.8	99	3.7	>2400000	11000	.0	21.0	--
JULY 09...	5.9	69	1.7	240000	2300	.0	22.0	--

04166650 JOHNSON DRAIN NEAR BROOKVILLE, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	15	40	90	98	24	9.7	1.8	350	0	287	54	10
APR., 1972												
24...	8.5	140	36	82	18	19	3.6	192	0	157	86	49
OCT.												
31...	11	50	31	140	20	24	3.9	334	0	274	92	73
MAR., 1973												
14...	2.7	300	26	63	16	11	3.8	178	0	146	53	33

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17...	.5	.40	340	52	5	2	0	0	0	2	.5
APR., 1972											
24...	.3	.80	280	120	32	2	--	--	--	--	--
OCT.											
31...	.2	.06	430	160	30	3	4	0	0	4	<.5
MAR., 1973											
14...	.2	.50	220	76	20	60	--	--	--	--	--

04167250 LOWER RIVER ROUGE AT CHERRY HILL, MICH.

LOCATION.--Lat 42°18'30", long 083°32'49", in SE¼ sec.13, T.2 S., R.7 E., Washtenaw County, at Napier Rd., 0.6 mi (0.9 km) northwest of Cherry Hill, and 9 mi (14 km) east of Ann Arbor.
DRAINAGE AREA.--1.74 mi² (4.51 km²).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
AUG., 1971									
17...	1330	.30	.02	.78	.06	.03	980	7.8	21.0
OCT.									
28...	1045	.52	.01	.36	.02	.02	980	7.6	12.5
DEC.									
14...	1045	.08	.01	.30	.03	.02	880	8.1	1.0
MAR., 1972									
08...	1425	.14	.03	.52	.10	.08	720	7.9	.0
APR.									
24...	1415	.07	.01	.17	.06	.02	550	8.9	8.0
JUNE									
20...	1135	.08	.03	.36	.05	.04	790	7.9	21.0
AUG.									
23...	1500	.03	.02	1.0	.05	.05	825	8.3	22.0
OCT.									
31...	1500	1.2	.00	.56	.06	.06	910	8.0	6.0
JAN., 1973									
05...	1000	.5	.01	.16	.05	.03	445	8.1	.0
MAR.									
14...	1300	.13	.01	.78	.08	.05	425	7.6	6.0
MAY									
10...	1020	.06	.00	.03	.10	.02	510	8.0	15.5
JULY									
09...	1330	.61	.00	.90	.08	.06	750	7.7	23.5

DATE	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971								
17...	6.0	78	4.3	>11000	210	.0	33.0	--
OCT.								
28...	8.5	81	2.1	46000	9300	.0	16.5	--
DEC.								
14...	11.0	80	2.8	2300	<300	.0	.0	1
MAR., 1972								
08...	13.4	94	3.2	2100	930	.1	-3.0	4
APR.								
24...	13.3	115	4.9	90	<30	.0	11.0	--
JUNE								
20...	8.6	100	.8	110000	9300	.0	29.0	--
AUG.								
23...	6.3	76	2.6	46000	15000	.0	27.0	--
OCT.								
31...	10.5	87	1.0	9300	4300	.0	9.0	--
JAN., 1973								
05...	12.3	87	1.8	300	230	.0	-5.0	1
MAR.								
14...	10.6	88	2.8	21000	900	.0	8.0	0
MAY								
10...	9.6	98	1.4	1100000	640	.0	21.0	--
JULY								
09...	6.3	77	3.0	1100000	3900	.0	34.0	--

04167250 LOWER RIVER ROUGE AT CHERRY HILL, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	2.4	90	100	84	41	20	8.7	310	0	254	94	63
APR., 1972												
24...	9.7	230	50	72	19	14	2.2	190	0	156	95	24
OCT.												
31...	10	10	15	120	30	23	4.2	314	0	258	110	50
MAR., 1973												
14...	4.2	460	0	51	12	9.7	4.4	138	0	113	49	25

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17...	.6	.40	380	130	25	4	10	0	0	2	3.7
APR., 1972											
24...	.3	.40	260	100	34	4	--	--	--	--	--
OCT.											
31...	.3	.70	420	160	10	10	5	0	0	0	<.5
MAR., 1973											
14...	.2	.60	180	64	35	100	--	--	--	--	--

04167350 FOWLER CREEK NEAR WILLOW RUN, MICH.

LOCATION.--Lat 42°14'32", long 083°33'16", in NW¼ sec.36, T.2 S., R.7 E., Washtenaw County, at Ridge Rd., 1.0 mi (1.6 km) northeast of Willow Run, 9 mi (14 km) east of Ann Arbor, and 3 mi (5km) upstream from Lower River Rouge.
DRAINAGE AREA.--7.45 mi² (19.3 km²).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
AUG., 1971									
17...	1415	.09	.02	.56	.10	.07	580	8.1	22.0
OCT.									
20...	0945	.42	.01	.42	.11	.08	1050	7.6	12.5
DEC.									
14...	1145	.57	.00	.34	.04	.04	1000	7.9	1.0
MAR., 1972									
08...	1435	.21	.05	1.0	.24	.24	480	8.4	.0
APR.									
24...	1430	.50	.01	.20	.05	.03	540	8.5	8.5
JUNE									
20...	1015	.09	.10	.36	.19	.11	790	7.8	20.0
AUG.									
23...	1530	.08	.01	.03	.16	.14	420	8.2	22.5
OCT.									
31...	1515	.16	.02	.37	.12	.10	980	7.9	6.0
JAN., 1973									
05...	1015	5.3	.01	.17	.04	.03	545	--	.0
MAR.									
14...	1330	.20	.02	.73	.12	.06	390	7.3	6.5
MAY									
10...	1000	.14	.01	.03	.09	.03	650	7.9	--
JULY									
09...	1355	1.2	.00	.03	.17	.11	800	7.7	23.5

DATE	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971								
17...	9.4	109	9.3	11000	40	.0	32.0	--
OCT.								
20...	9.2	88	2.1	110000	24000	.0	14.0	--
DEC.								
14...	6.5	47	3.0	7500	400	.0	.0	1
MAR., 1972								
08...	13.2	92	2.0	4600	150	.1	-5.0	4
APR.								
24...	12.1	104	4.8	9200	<300	.0	9.0	--
JUNE								
20...	7.8	89	.4	43000	9000	.0	22.0	--
AUG.								
23...	6.4	77	4.4	>240000	9300	.0	20.0	--
OCT.								
31...	10.4	86	2.0	1500	<300	.0	7.5	--
JAN., 1973								
05...	12.3	87	1.5	9300	900	.0	-4.5	1
MAR.								
14...	10.2	80	2.8	46000	1500	.0	10.5	0
MAY								
10...	9.7	96	2.5	>2400000	1100000	.0	21.5	--
JULY								
09...	7.5	91	4.2	150000	9300	.0	30.5	--

04167350 FOWLER CREEK NEAR WILLOW RUN, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	1.7	70	130	52	17	20	3.9	184	0	151	37	40
APR., 1972												
24...	14	500	57	100	10	14	3.8	182	0	149	110	40
OCT.												
31...	10	20	19	170	20	23	5.2	332	0	272	150	72
MAR., 1973												
14...	3.6	520	25	49	10	7.0	4.0	116	0	95	49	23

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17...	.4	.20	200	49	10	15	7	0	0	1	1.0
APR., 1972											
24...	.3	5.1	290	140	30	6	--	--	--	--	--
OCT.											
31...	.3	3.1	510	240	25	6	14	0	0	1	<.5
MAR., 1973											
14...	.2	.80	160	60	40	150	--	--	--	--	--

04168640 DETROIT RIVER AT TRENTON, MICH.

LOCATION.--Lat 42°07'37", long 83°10'35", in SE¼ sec.19, T.4 S., R.11 W; Wayne Co., at Grosse Isle Parkway bridge over Trenton Channel of the Detroit River, at Trenton.

PERIOD OF RECORD.--Chemical analyses October 1970 to June 1972 (discontinued).

REMARKS.--Station operated as part of the Environmental Protection Agency (EPA) national network. Biweekly chemical analyses furnished by Michigan District Office, EPA, Grosse Isle, Mich.

CHEMICAL ANALYSES, OCTOBER 1971 TO JUNE 1972

DATE	TIME	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	HARD-NESS (CA,MG) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	[illegible] COLI-FORM (COL-ONIES PER 100 ML)
OCT.												
12...	0935	78	16	18	100	240	8.1	13.5	5	9.3	89	340
26...	0905	78	16	15	100	250	7.9	14.5	10	8.9	88	<150
NOV.												
08...	1300	79	16	19	100	260	7.8	8.5	20	10.7	93	<150
22...	1000	75	14	15	98	260	7.8	4.5	35	11.3	88	833
DEC.												
06...	0925	100	16	19	100	260	7.9	3.0	15	12.8	96	882
JAN.												
04...	0930	76	21	22	100	270	7.9	2.0	10	--	--	<617
JUNE												
26...	1000	78	16	9.0	88	220	8.2	--	7	8.6	--	2700

DATE	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL RESI-DUE (MG/L)	PHENOLS (UG/L)	CYANIDE (CN) (MG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)
OCT.												
12...	--	--	.20	--	.10	.11	--	11	140	4	--	--
26...	--	--	--	--	--	--	--	21	160	--	--	--
NOV.												
08...	--	--	.20	--	.20	.04	--	25	180	4	--	--
22...	--	--	--	--	--	--	--	64	200	--	--	--
DEC.												
06...	11	1.2	.20	.42	.22	.11	150	24	170	6	.01	0
JAN.												
04...	--	--	.30	--	.23	.04	--	13	170	7	--	--
JUNE												
26...	6.0	1.2	.10	.32	.14	.04	124	11	150	--	.00	0

04172105 HORSESHOE LAKE OUTLET NEAR WHITMORE LAKE, MICH.

LOCATION.--Lat 42°24'56", long 083°45'40", in NW¼ sec.8, T.1 S., R.6 E., Washtenaw County, at Whitmore Lake Rd. at Whitmore Lake, 9 mi (14 km) north of Ann Arbor, and 5.5 mi (8.8 km) upstream from Huron River.
DRAINAGE AREA.--21.2 mi^2 (54.9 km^2).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971								
17...	1530	.20	.02	.61	.06	.04	700	8.2
OCT.								
28...	1430	.40	.01	.36	.23	.07	980	7.9
DEC.								
13...	1515	.06	.09	.01	.19	.10	1000	8.0
MAR., 1972								
08...	1330	.04	.01	.00	.02	.01	650	8.6
APR.								
25...	0745	.08	.03	.39	.02	.01	630	7.5
JUNE								
19...	1445	.11	.12	.39	.08	.04	1200	8.0
AUG.								
25...	0805	.03	.02	.92	.05	.04	625	7.1
NOV.								
02...	1655	.23	.01	.55	.06	.03	670	8.1
JAN., 1973								
03...	1435	1.4	.01	.17	.02	.01	485	8.1
MAR.								
14...	1545	.06	.01	.85	.08	.02	580	7.4
MAY								
10...	1400	.14	.00	.06	.06	.01	610	8.1
JULY								
09...	1455	.26	.00	.90	.08	.06	650	8.1

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
17...	23.0	13.6	162	.9	11000	<30	.0	35.0	--
OCT.									
28...	16.0	11.6	81	5.9	24000	15000	.0	21.0	--
DEC.									
13...	3.0	16.2	123	2.4	1500	400	.0	3.0	0
MAR., 1972									
08...	1.0	16.6	120	1.0	230	<30	.0	-3.0	2
APR.									
25...	9.0	9.1	80	2.7	40	<30	.0	11.5	--
JUNE									
19...	20.5	5.6	66	2.1	2300	400	.0	27.0	--
AUG.									
25...	21.5	2.9	34	.9	4300	400	.0	25.0	--
NOV.									
02...	10.5	9.4	86	2.2	4600	<30	.0	17.5	--
JAN., 1973									
03...	1.0	9.6	70	2.4	46000	90	.0	3.0	0
MAR.									
14...	6.5	9.4	79	1.9	21000	<300	.0	13.0	0
MAY									
10...	16.0	10.4	107	4.6	210000	4000	.0	20.5	--
JULY									
09...	30.0	7.8	105	6.8	7500	230	.0	31.0	--

04172105 HORSESHOE LAKE OUTLET NEAR WHITMORE LAKE, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	16	60	62	94	20	64	5.2	224	0	194	120	130
APR., 1972												
25...	12	150	50	100	14	20	3.4	200	0	164	110	50
NOV.												
02...	5.9	30	20	98	16	19	3.3	230	0	189	94	43
MAR., 1973												
14...	2.4	120	29	74	20	12	3.4	208	0	171	69	35

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17...	.2	.06	350	170	20	1	8	0	0	1	5.3
APR., 1972											
25...	.3	.80	310	140	40	7	--	--	--	--	--
NOV.											
02...	.2	.20	310	120	40	3	7	0	0	2	<.5
MAR., 1973											
14...	.3	.50	260	94	50	8	--	--	--	--	--

04172200 ARMS CREEK NEAR HAMBURG, MICH.

LOCATION.--Lat 42°25'16", long 083°52'30", in NE¼ sec.5, T.1 S., R.5 E., Washtenaw County, at Mast Road, 4.4 mi (7.1 km) southwest of Hamburg, 0.8 mi (1.3 km) upstream from Huron River.
DRAINAGE AREA.--20.9 mi² (54.1 km²).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971									
18...	1415	E1.5	.31	.04	.56	.07	.04	700	8.1
OCT.									
28...	1510	E2.5	.52	.01	.31	.02	.02	740	7.8
DEC.									
15...	0945	E10	.11	.02	.34	.03	.02	650	7.4
MAR., 1972									
08...	1305	E5.0	.09	.02	.02	.03	.03	550	7.8
APR.									
25...	0845	E20	.07	.02	.08	.02	.02	550	8.0
JUNE									
20...	1250	E4.0	.06	.02	.34	.13	.05	650	8.0
AUG.									
25...	0940	E4.0	.03	.01	.80	.07	.04	660	7.9
NOV.									
02...	1600	E7.0	.47	.00	.39	.07	.05	750	7.9
JAN., 1973									
03...	1345	E29	1.9	.01	.15	.02	.01	495	7.7
MAR.									
16...	1040	E45	.06	.00	.56	.15	.03	490	7.7
MAY									
10...	1325	E22	.20	.01	.06	.09	.01	540	7.8
JULY									
10...	0830	E8.0	.44	.00	1.0	.08	.07	625	7.6

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
18...	24.0	6.9	84	5.3	24000	400	.0	34.0	--
OCT.									
28...	15.5	8.9	91	3.6	24000	2300	.0	21.0	--
DEC.									
15...	4.0	10.8	84	4.2	15000	9300	.0	13.0	0
MAR., 1972									
08...	.0	12.8	90	--	11000	90	.0	-3.0	2
APR.									
25...	4.0	10.2	80	1.4	90	90	.0	5.0	--
JUNE									
20...	21.5	7.8	92	2.6	110000	4300	.0	32.0	--
AUG.									
25...	17.0	7.1	76	.6	4300	1400	.0	24.5	--
NOV.									
02...	11.5	9.4	89	1.8	>240000	2300	.0	19.0	--
JAN., 1973									
03...	1.0	11.2	81	2.7	>240000	40	.0	4.5	1
MAR.									
16...	8.0	8.8	76	1.4	110000	<300	.0	8.0	0
MAY									
10...	16.0	8.3	86	4.7	>2400000	75000	.0	22.5	--
JULY									
10...	20.0	5.7	64	3.3	210000	2300	.0	20.0	--

04172200 ARMS CREEK NEAR HAMBURG, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
18...	13	70	63	110	24	8.8	3.3	344	0	282	81	22
APR., 1972												
25...	12	500	77	91	17	6.9	2.4	224	0	184	85	22
NOV.												
02...	11	0	0	130	19	7.8	2.1	328	0	269	110	19
MAR., 1973												
16...	4.2	250	5	67	18	5.8	2.5	198	0	162	63	19

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
18...	.3	1.6	370	80	15	15	6	0	0	1	1.5
APR., 1972											
25...	.4	.50	300	110	40	4	--	--	--	--	--
NOV.											
02...	.3	.50	400	140	20	7	4	0	2	0	<.5
MAR., 1973											
16...	.3	.50	240	80	40	10	--	--	--	--	--

04172400 SOUTH LAKE OUTLET NEAR UNADILLA, MICH.

LOCATION.--Lat 42°24'22", long 084°04'42", in NE¼ sec. 9, T.1 S., R.3 E., Washtenaw County, at Boyce Rd., 2.0 mi (3.2 km) southwest of Unadilla, 0.8 mi (1.3 km) downstream from South Lake, and 2.2 mi (3.5 km) upstream from Portage Creek.
DRAINAGE AREA.--15.7 mi² (40.7 km²).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
AUG., 1971									
18...	1205	.30	.01	.76	.08	.00	460	8.6	29.0
OCT.									
27...	1500	.26	.02	.78	.09	.06	360	7.7	18.0
DEC.									
15...	1130	.03	.01	.17	.03	.03	370	7.9	5.0
MAR., 1972									
08...	1200	.05	.01	.10	.03	.02	380	8.1	1.0
APR.									
25...	1000	.04	.02	.02	.02	.01	400	8.2	7.5
JUNE									
20...	1400	.03	.01	.44	.04	.04	380	8.4	24.5
AUG.									
25...	1045	.02	.01	.83	.06	.04	365	7.6	22.0
NOV.									
02...	1500	.03	.00	.32	.06	.04	390	7.5	10.5
JAN., 1973									
03...	0915	.13	.01	.17	.05	.04	420	7.2	1.0
MAR.									
16...	0935	.06	.01	.64	.10	.02	420	7.7	6.0
MAY									
09...	1000	.02	.00	.10	.06	.01	405	7.5	13.5
JULY									
10...	0955	.12	.00	1.1	.08	.08	370	7.2	24.0

DATE	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971								
18...	2.4	27	1.0	110000	400	.0	31.0	--
OCT.								
27...	8.4	91	2.4	46000	300	.0	19.0	--
DEC.								
15...	11.2	90	2.8	900	<300	.0	15.0	0
MAR., 1972								
08...	12.8	93	.0	90	<30	.0	-6.0	4
APR.								
25...	11.4	96	1.4	90	40	.0	12.0	--
JUNE								
20...	5.4	67	4.6	4000	<3000	.0	28.0	--
AUG.								
25...	3.2	38	.2	700	<300	.0	26.5	--
NOV.								
02...	8.3	76	2.1	46000	40	.0	22.0	--
JAN., 1973								
03...	10.2	74	1.5	4300	<30	.0	-2.0	2
MAR.								
16...	9.8	81	2.3	9300	<300	.0	7.0	0
MAY								
09...	7.4	73	2.7	4900	230	.0	17.0	--
JULY								
10...	1.6	20	.6	120000	230	.0	23.0	--

04172400 SOUTH LAKE OUTLET NEAR UNADILLA, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
10...	15	130	310	61	20	7.2	1.9	226	0	185	36	15
APR., 1972												
25...	15	90	73	55	16	6.6	1.6	210	0	172	29	12
NOV.												
02...	7.6	20	0	66	12	5.6	1.6	228	0	187	25	12
MAR., 1973												
16...	6.5	80	0	55	17	6.2	1.5	218	0	179	21	14

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
10...	.2	.04	230	45	20	4	0	0	0	1	2.0
APR., 1972											
25...	.3	.20	200	31	7	1	--	--	--	--	--
NOV.											
02...	.2	.00	210	28	15	--	7	0	0	5	<.5
MAR., 1973											
16...	.2	.10	210	29	10	2	--	--	--	--	--

04173000 HURON RIVER NEAR DEXTER, MICH.

LOCATION.--Lat 42°23'10", long 83°54'40", in S½ sec.13, T.1 S., R.4 E., Washtenaw County, at gaging station on right bank 20 ft (6.1 m) downstream from bridge on North Territorial Rd., 0.5 mi (.8 km) east of Hudson Mills, 2 mi (3 km) downstream from Portage Lake Outlet, and 4 mi (6 km) north of Dexter.
DRAINAGE AREA.--522 mi^2 (1,351 km2).
PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department. Gaging station discontinued September 1972.

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971									
10...	1315	40	.25	.01	.51	.01	.01	500	8.0
OCT.									
27...	1535	144	.55	.02	.66	.02	.01	475	8.4
DEC.									
15...	0900	349	.03	.02	.30	.20	.19	510	7.3
MAR., 1972									
08...	1240	203	.04	.01	.05	.05	.03	570	8.3
APR.									
25...	0910	616	.05	.03	.05	.02	.01	530	8.2
JUNE									
20...	1315	490	.02	.02	.42	.07	.07	550	8.6
AUG.									
25...	1005	130	.03	.01	.73	.06	.03	625	7.6
NOV.									
02...	1540	E420	.32	.00	.50	.16	.12	525	7.9
JAN., 1973									
03...	1315	E930	1.2	.01	.21	.03	.03	575	8.0
MAR.									
16...	1015	E1070	.00	.01	.03	.11	.04	560	7.8
MAY									
10...	1320	E520	.06	.00	.20	.12	.01	550	8.2
JULY									
10...	0910	E390	.20	.00	.06	.07	.05	560	8.0
AUG.									
22...	1030	E290	.06	.01	1.2	.05	.04	530	7.7

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
10...	26.0	7.6	95	1.7	1100	<300	.0	32.0	--
OCT.									
27...	17.5	10.8	116	3.1	24000	4300	.0	20.0	--
DEC.									
15...	4.0	11.8	92	4.9	<300	<300	.0	13.0	0
MAR., 1972									
08...	1.5	17.2	125	--	40	<30	.0	.0	0
APR.									
25...	8.0	12.6	109	3.7	40	<30	.0	11.0	--
JUNE									
20...	24.0	9.5	114	1.0	24000	>300	.0	27.0	--
AUG.									
25...	23.5	7.6	92	1.0	4300	1500	.0	26.0	--
NOV.									
02...	10.0	10.0	91	2.0	24000	<30	.0	17.5	--
JAN., 1973									
03...	1.5	12.8	97	3.9	24000	750	.0	3.0	0
MAR.									
16...	6.0	11.6	96	2.2	15000	<300	.0	8.0	0
MAY									
10...	15.0	12.0	121	3.0	4000	<30	.0	19.5	--
JULY									
10...	25.5	6.8	85	1.2	1500	230	.0	21.5	--
AUG.									
22...	22.0	7.4	86	1.3	1100000	90	.0	20.0	--

04173000 HURON RIVER NEAR DEXTER, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971 18...	4.1	30	54	59	18	18	2.1	202	0	166	50	31
APR., 1972 25...	12	370	80	68	19	16	2.5	218	0	179	60	29
NOV. 02...	5.6	20	0	68	19	16	2.1	216	0	177	49	32
MAR., 1973 16...	9.6	20	0	68	22	14	2.1	230	0	189	56	30
AUG. 22...	8.4	20	9	68	16	16	2.1	232	0	190	42	28

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971 18...	.2	.04	220	54	10	3	5	0	0	1	.6
APR., 1972 25...	.3	.60	250	69	9	2	--	--	--	--	--
NOV. 02...	.3	.02	250	70	5	3	4	0	0	24	<.5
MAR., 1973 16...	.3	.50	260	70	15	5	--	--	--	--	--
AUG. 22...	.2	.02	240	48	20	1	9	0	0	0	<.5

04173150 MILL CREEK NEAR SYLVAN, MICH.

LOCATION.--Lat 42°15'04", long 084°02'01", in SW¼ sec.36, T.2 S., R.3 E., Washtenaw County, at Manchester, Rd. (State Highway M-52), 3.3 mi (5.3 km) southeast of Sylvan, 4.0 mi (6.4 km) south of Chelsea, and 13.3 mi (14.9 km) upstream from Huron River.

DRAINAGE AREA.--11.1 mi^2 (13.7 km^2).

PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).

REMARKS.--Bimonthly analyses for nutrients,coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG., 1971									
10...	0940	.21	.02	.42	.02	.01	560	8.0	15.0
OCT.									
27...	1230	1.4	.03	.64	.03	.03	650	7.9	15.5
DEC.									
16...	0900	.20	.02	.54	.26	.22	730	7.3	4.0
MAR., 1972									
08...	0935	.08	.02	.15	.08	.05	625	7.9	.0
APR.									
25...	1205	.11	.02	.05	.06	.05	725	8.1	9.5
JUNE									
21...	1110	.04	.00	.56	.10	.10	640	8.0	14.0
AUG.									
24...	1515	.02	.02	.32	.05	.04	580	8.4	24.5
NOV.									
02...	1230	1.5	.00	.46	.12	.08	755	7.5	11.0
JAN., 1973									
03...	1100	1.4	.01	.15	.02	.01	770	7.7	1.5
MAR.									
15...	1515	.12	.01	.27	.30	.29	690	7.8	11.0
MAY									
09...	1240	.06	.00	.27	.13	.04	700	7.9	16.0
JULY									
10...	1355	.44	.00	1.0	.18	.15	720	7.7	23.5

DATE	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	COM-PLETE COLI-FORM (MPN)	FECAL COLI-FORM (EC BROTH) (MPN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	AIR TEMPER-ATURE (DEG C)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
AUG., 1971								
10...	9.6	97	2.1	46000	400	.0	20.0	--
OCT.								
27...	9.3	96	3.7	24000	1100	.0	16.5	--
DEC.								
16...	11.6	91	.1	7500	2300	.0	3.0	0
MAR., 1972								
08...	13.2	93	.2	930	<30	.0	-3.0	0
APR.								
25...	11.4	103	1.4	90	40	.0	10.0	--
JUNE								
21...	9.3	92	1.4	9000	4000	.0	13.0	--
AUG.								
24...	7.6	94	1.4	4300	2000	.1	29.0	--
NOV.								
02...	9.4	87	1.4	110000	400	.2	22.5	--
JAN., 1973								
03...	11.6	88	1.7	9300	90	.0	.5	0
MAR.								
15...	9.9	92	2.0	110000	7500	.0	16.0	0
MAY								
09...	9.0	93	3.4	4000	4000	.0	22.0	--
JULY								
10...	7.0	85	2.0	1100000	75000	.0	26.0	--

04173150 MILL CREEK NEAR SYLVAN, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
AUG., 1971												
10...	12	30	0	74	21	14	1.4	284	0	233	34	30
APR., 1972												
25...	13	780	99	100	17	19	2.0	236	0	194	96	40
NOV.												
02...	12	10	4	100	22	18	2.6	270	0	221	89	46
MAR., 1973												
15...	7.4	610	11	78	30	20	2.2	270	0	221	73	45

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
10...	.3	.02	270	37	5	1	6	0	0	1	1.0
APR., 1972											
25...	.3	.80	320	130	15	8	--	--	--	--	--
NOV.											
02...	.2	.60	340	120	15	75	10	0	0	16	<.5
MAR., 1973											
15...	.3	.80	320	98	20	25	--	--	--	--	--

04173234 MILL CREEK NEAR LIMA CENTER, MICH.

LOCATION.--Lat 42°16'53", long 83°52'20", in NE¼ sec.26, T.2 S., R.4 E., Washtenaw County, at Jerusalem Rd., 2.0 mi (3.2 km) southeast of Lima Center, and 6.2 mi (10 km) upstream from Huron River.

DRAINAGE AREA.--59.8 mi² (155 km²).

PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department. Discharges obtained by correlation with nearby gaging stations.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971									
10...	1555	E6.0	.00	.01	.56	.07	.07	800	7.9
OCT.									
27...	1045	E13	.57	.02	.42	.03	.02	700	7.5
DEC.									
15...	1245	E38	.26	.04	.15	.03	.03	750	8.1
MAR., 1972									
08...	1030	E19	.13	.02	.27	.05	.05	500	8.3
APR.									
25...	1115	E40	.30	.02	.12	.03	.03	740	7.9
JUNE									
21...	0930	E13	.04	.01	.65	.20	.20	650	6.5
AUG.									
25...	1250	E14	.04	.01	.03	.07	.06	700	8.2
NOV.									
02...	1330	E21	1.5	.00	.42	.10	.07	860	7.7
JAN., 1973									
03...	1210	E70	5.3	.01	.42	.01	.01	620	7.6
MAR.									
15...	0830	E112	.06	.00	.51	.09	.05	700	7.7
MAY									
09...	1205	E60	.20	.00	.20	.00	.02	675	7.8
JULY									
10...	1245	E34	.91	.00	1.0	.08	.07	675	7.7
AUG.									
22...	1330	E20	.06	.01	.60	.09	.06	720	7.9

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
10...	24.0	10.4	127	2.1	15000	4300	.0	34.5	--
OCT.									
27...	15.0	9.6	97	1.5	9300	400	.0	18.0	--
DEC.									
15...	6.0	11.2	92	.6	4300	400	.0	11.0	0
MAR., 1972									
08...	.0	12.0	90	1.3	>24000	110	.2	-7.0	1
APR.									
25...	6.0	11.8	98	2.0	230	230	.0	17.5	--
JUNE									
21...	17.5	7.1	76	1.1	9000	<3000	.0	11.5	--
AUG.									
25...	23.0	9.7	117	.0	7500	900	.0	29.0	--
NOV.									
02...	11.0	10.0	93	1.5	110000	1500	.0	22.0	--
JAN., 1973									
03...	1.0	11.1	80	2.9	46000	430	.0	3.5	1
MAR.									
15...	11.0	9.4	87	1.4	240000	1500	.0	14.0	0
MAY									
09...	14.0	9.9	90	4.2	43000	4000	.0	22.0	--
JULY									
10...	21.0	6.7	77	5.1	6400000	110000	.0	27.0	--
AUG.									
22...	17.0	11.4	120	2.3	1100000	24000	.0	22.0	--

04173254 MILL CREEK NEAR LIMA CENTER, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
AUG., 1971									
18...	16	30	0	95	20	11	2.2	348	0
APR., 1972									
25...	12	710	100	110	24	9.0	2.9	233	0
NOV.									
02...	9.0	20	31	94	21	11	3.1	270	0
AUG., 1973									
22...	18	30	36	120	24	12	2.2	368	0

DATE	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
AUG., 1971									
18...	285	48	16	.5	.02	320	34	15	10
APR., 1972									
25...	191	150	23	.4	3.6	370	180	33	11
NOV.									
02...	221	74	30	.2	1.1	320	100	20	8
AUG., 1973									
22...	302	65	26	.3	.02	400	95	35	7

DATE	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
AUG., 1971								
18...	3	0	0	0	<.5	--	--	--
APR., 1972								
25...	--	--	--	--	--	--	--	--
NOV.								
02...	6	0	0	17	1.3	0	0	40
AUG., 1973								
22...	10	0	0	0	<.5	--	--	--

04173510 NORTH FORK MILL CREEK NEAR CHELSEA, MICH.

LOCATION.--Lat 42°19'54", long 084°00'57", in SW¼ sec.1, T.2 S., R.3 E., Washtenaw County, at McKinley Rd., 0.5 mi (0.8 km) north of Chelsea, 6.6 mi (11 km) upstream from Mill Creek.
DRAINAGE AREA.--16.6 mi² (37.8 km²).
PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
AUG., 1971 18...	1115	.08	.01	.42	.07	.03	850	9.2	21.0
OCT. 27...	1400	.62	.01	.61	.06	.05	520	7.8	16.0
DEC. 15...	1215	.14	.02	.06	.03	.03	700	7.7	5.0
MAR., 1972 08...	1145	.05	.02	.17	.03	.03	480	8.3	.0
APR. 25...	1045	.06	.01	.10	.06	.02	410	8.0	6.0
JUNE 20...	1515	.02	.01	.36	.08	.03	500	8.2	21.0
AUG. 25...	1200	.04	.01	.08	.16	.05	480	8.2	20.0
NOV. 02...	1430	.27	.00	.34	.08	.04	520	7.7	10.5
JAN., 1973 03...	1040	.46	.01	.13	.08	.00	345	7.9	.5
MAR. 16...	0905	.06	.01	.75	.03	.02	450	7.7	7.0
MAY 09...	1135	.06	.00	.20	.03	.02	490	7.9	13.5
JULY 10...	1135	.51	.00	1.0	.98	.07	440	7.6	20.5
AUG. 22...	1200	.32	.01	.60	.08	.06	450	7.9	16.0

DATE	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971 18...	9.8	113	4.0	46000	4300	.0	34.5	--
OCT. 27...	9.3	96	3.5	9300	300	.0	10.0	--
DEC. 15...	10.6	85	2.5	24000	4300	.2	15.0	0
MAR., 1972 08...	13.2	93	.6	11000	230	.0	-1.0	0
APR. 25...	11.4	94	1.6	930	150	.0	7.5	--
JUNE 20...	8.4	98	1.9	21000	9300	.0	25.0	--
AUG. 25...	7.6	86	.1	2300	2300	.0	30.0	--
NOV. 02...	9.2	84	1.1	24000	230	.0	10.0	--
JAN., 1973 03...	11.9	85	1.7	4300	110	.0	.0	1
MAR. 16...	10.2	86	1.9	110000	9300	.0	10.0	0
MAY 09...	8.8	87	3.6	93000	210	.0	19.0	--
JULY 10...	6.6	75	3.5	7500000	>2400000	.0	25.0	--
AUG. 22...	8.6	80	1.4	0400000	46000	.0	16.0	--

04173310 NORTH FORK MILL CREEK NEAR CHELSEA, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
18...	6.4	40	40	94	27	39	2.7	284	0	233	84	100
APR., 1972												
25...	9.6	2500	72	66	16	7.7	1.4	218	0	179	37	17
NOV.												
02...	12	30	25	81	17	6.9	1.9	260	0	213	48	10
MAR., 1973												
16...	7.0	0	160	62	16	7.2	1.6	220	0	180	36	10
AUG.												
22...	13	30	12	66	16	6.6	1.1	240	0	197	19	10

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
18...	.3	.02	340	110	10	2	5	1	0	1	.0
APR., 1972											
25...	.3	.30	230	48	18	2	--	--	--	--	--
NOV.											
02...	.2	.04	270	61	30	5	9	0	0	0	1.4
MAR., 1973											
16...	.3	.20	220	40	30	7	--	--	--	--	--
AUG.											
22...	.3	.04	230	34	35	3	12	0	0	0	.4

04173320 LETTS CREEK AT CHELSEA, MICH.

LOCATION.--Lat 42°19'27", long 084°01'16", in NE¼ sec.12, T.2 S., R.3 E., Washtenaw County, at State Highway M-52 at Chelsea, and 0.9 mi (1.4 km) upstream from North Fork Mill Creek.

DRAINAGE AREA.--18.8 mi^2 (48.7 km^2).

PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department. Discharges obtained by correlation with nearby gaging stations.

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971									
18...	1030	--	.00	.01	.46	.03	.01	850	8.3
OCT.									
27...	1320	E12	.62	.01	.46	.03	.02	875	8.1
DEC.									
15...	1200	E27	.13	.02	.12	.03	.03	720	7.5
MAR., 1972									
08...	1115	E19	.06	.02	.29	.05	.05	810	7.9
APR.									
25...	1020	E23	.13	.02	.08	.06	.02	810	8.0
JUNE									
20...	1445	E8.8	.01	.02	.27	.55	.04	850	8.5
AUG.									
25...	1125	E12	.03	.02	.92	.05	.05	890	8.2
NOV.									
02...	1410	E21	.36	.00	.39	.10	.05	790	7.8
JAN., 1973									
03...	1000	E26	2.8	.01	.22	.08	.07	830	7.5
MAR.									
16...	0840	E36	.12	.01	.68	.06	.02	730	7.6
MAY									
09...	1115	E33	.26	.01	.27	.07	.01	740	7.8
JULY									
10...	1120	E23	.64	.00	.98	.12	.10	775	7.5

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
18...	19.0	6.2	68	3.3	110000	400	.0	31.0	--
OCT.									
27...	16.5	12.8	134	8.5	24000	9300	.0	18.5	--
DEC.									
15...	5.0	11.0	88	1.0	110000	4300	.0	15.0	0
MAR., 1972									
08...	.0	12.6	89	2.2	>24000	430	.0	.0	1
APR.									
25...	5.0	12.2	98	1.8	2100	930	.0	19.5	--
JUNE									
20...	23.5	14.2	171	2.2	>240000	46000	.0	25.5	--
AUG.									
25...	21.0	10.0	116	1.4	2000	700	.0	29.0	--
NOV.									
02...	11.0	11.1	103	1.9	24000	400	.0	20.0	--
JAN., 1973									
03...	.5	11.3	81	5.3	15000	430	.0	.0	1
MAR.									
16...	7.5	9.0	77	.3	21000	900	.0	7.0	0
MAY									
09...	1.7	9.4	100	2.1	23000	230	.0	20.0	--
JULY									
10...	21.5	6.7	79	3.3	4300000	75000	.0	26.0	--

04173320 LETTS CREEK AT CHELSEA, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973.--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971 18...	7.3	60	52	99	23	39	2.4	265	0	217	67	100
APR., 1972 25...	12	450	100	120	23	25	2.3	294	0	241	110	57
NOV. 02...	13	30	63	120	24	22	2.8	328	0	269	78	53
MAR., 1973 16...	4.6	0	56	87	31	20	2.3	280	0	230	85	47

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971 18...	.3	.02	340	120	10	1	6	0	0	1	.8
APR., 1972 25...	.4	1.0	390	150	29	3	--	--	--	--	--
NOV. 02...	.2	.30	400	130	30	1	7	0	2	5	<.5
MAR., 1973 16...	.3	.70	340	120	35	9	--	--	--	--	--

04173350 NORTH FORK MILL CREEK NEAR LIMA CENTER, MICH.

LOCATION.--Lat 42°17'46", long 83°57'33", in SW¼ sec.23, T.2 S., R.4 E., Washtenaw County, at Dancer Rd., 1.2 mi (1.9 km) southeast of Lima Center, and 1.1 mi (1.8 km) above Mill Creek.

DRAINAGE AREA.--59.0 mi^2 (153 km^2).

PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department. Discharges obtained by correlation with nearby gaging stations.

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971									
19...	0820	E3.0	1.3	.19	.73	.55	.36	900	7.7
OCT.									
27...	1115	E14	1.2	.11	.76	.52	.44	800	7.2
DEC.									
15...	1345	55	.14	.03	.61	.11	.08	590	7.9
MAR., 1972									
08...	1015	E23	.70	.02	.75	.40	.26	650	8.0
APR.									
25...	1130	E75	.11	.33	.12	.11	.08	695	8.1
JUNE									
21...	1015	E12	.09	.01	.54	.52	.51	790	7.2
AUG.									
25...	1230	E14	.09	.16	1.1	.50	.46	725	8.0
NOV.									
02...	1305	E25	.50	.01	.68	.24	.22	650	7.6
JAN., 1973									
03...	1145	E120	1.3	.01	.22	.05	.04	640	7.7
MAR.									
15...	1545	E190	.06	.02	1.2	.09	.05	620	7.8
MAY									
09...	1215	E95	.06	.25	.45	.04	.01	660	7.8
JULY									
10...	1310	E50	1.4	.01	.98	.16	.13	680	7.6
AUG.									
22...	1415	E40	.10	.03	.78	.08	.07	680	7.7

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
19...	17.0	6.9	73	6.4	46000	2300	.0	28.0	--
OCT.									
27...	15.0	8.3	84	.0	240000	700	.0	16.0	--
DEC.									
15...	5.0	10.2	82	3.4	9300	900	.0	11.0	0
MAR., 1972									
08...	.0	12.4	87	5.6	>24000	930	.0	-8.0	1
APR.									
25...	6.0	11.2	93	1.0	1500	930	.0	10.0	--
JUNE									
21...	17.5	5.7	62	1.8	23000	<3000	.0	11.0	--
AUG.									
25...	21.0	7.0	81	1.8	7500	700	.0	28.0	--
NOV.									
02...	10.0	7.7	70	3.5	46000	1500	.0	20.0	--
JAN., 1973									
03...	.5	10.2	73	2.4	110000	230	.0	1.5	1
MAR.									
15...	11.5	9.2	87	2.9	21000	21000	.0	16.0	0
MAY									
09...	14.5	8.7	88	2.2	23000	930	.0	20.0	--
JULY									
10...	22.0	4.8	56	3.7	150000	15000	.0	27.0	--
AUG.									
22...	17.0	7.8	82	1.1	1100000	110000	.0	22.0	--

04173350 NORTH FORK MILL CREEK NEAR LIMA CENTER, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973--Continued

DATE	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
AUG., 1971 19...	10	120	250	100	29	43	4.3	332	0	272	73	80
APR., 1972 25...	12	490	87	110	17	16	2.2	256	0	210	94	44
NOV. 02...	11	20	9	140	26	15	2.9	322	0	264	150	33
AUG., 1973 22...	14	30	34	100	21	12	2.1	326	0	267	46	32

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)
AUG., 1971 19...	.5	1.4	370	96	10	2	6	0	0	0	<.5
APR., 1972 25...	.3	1.0	340	130	25	3	--	--	--	--	--
NOV. 02...	.2	.50	460	190	25	2	9	1	0	15	<.5
AUG., 1973 22...	.3	.04	330	68	50	6	8	0	0	0	<.5

04174050 HURON RIVER AT DELHI MILLS, MICH.

LOCATION.--Lat 42°20'01", long 083°48'04", in SE¼ sec.2, T.2 S., R.5 E., Washtenaw County, at Delhi Rd. at Delhi Mills, 5.0 mi (8.0 km) northwest of Ann Arbor, 5.1 mi (8.2 km) upstream from Barton Dam, and 60.0 mi (96.5 km) above mouth.
DRAINAGE AREA.--699 mi^2 (1,810 km^2).
PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
AUG., 1971 19...	0915	.31	.02	.51	.10	.07	540	7.6	22.0
OCT. 28...	1555	.52	.01	.27	.06	.05	520	8.2	16.5
DEC. 15...	1020	.08	.01	.61	.13	.11	620	7.9	3.5
MAR., 1972 06...	1545	.01	.03	.52	.06	.05	620	7.9	.0
APR. 25...	0815	.11	.02	.06	.03	.02	600	8.2	6.0
JUNE 19...	1515	.05	.02	.34	.10	.07	590	8.3	24.0
AUG. 25...	0845	.05	.02	.88	.12	.10	570	7.3	22.0
NOV. 02...	1730	.02	.02	.58	.18	.11	575	8.2	10.0
JAN., 1973 03...	1525	.53	.01	.37	.02	.01	600	7.8	1.0
MAR. 16...	1105	.06	.01	.60	.08	.04	590	7.9	6.0
MAY 10...	1235	.26	.00	.25	.03	.00	590	8.0	14.0
JULY 09...	1530	.34	.00	2.1	.07	.05	580	7.9	26.5
AUG. 23...	1135	.06	.01	.71	.09	.09	575	8.0	19.0

DATE	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971 19...	5.9	69	6.8	46000	400	.0	26.0	--
OCT. 28...	10.6	90	2.7	>240000	1500	.0	21.0	--
DEC. 15...	12.0	92	3.4	7500	2300	.0	13.0	0
MAR., 1972 06...	15.3	108	5.8	90	40	.0	-4.0	0
APR. 25...	10.0	83	2.8	1500	230	.0	7.0	--
JUNE 19...	13.6	168	1.2	2300	<300	.0	29.5	--
AUG. 25...	5.8	69	.7	15000	700	.0	24.0	--
NOV. 02...	10.8	98	2.8	11000	900	.0	14.5	--
JAN., 1973 03...	12.9	93	2.6	24000	<30	.0	2.0	0
MAR. 16...	10.8	89	2.4	110000	<300	.0	8.0	0
MAY 10...	10.8	107	3.8	>2400000	430	.0	23.0	--
JULY 09...	7.0	88	2.0	11000	230	.0	29.5	--
AUG. 23...	9.5	104	2.1	20000000	2000	.0	18.5	--

04174050 HURON RIVER AT DELHI MILLS, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
AUG., 1971 19...	5.2	30	0	72	18	19	2.4	244	0
APR., 1972 25...	12	690	120	82	22	15	2.3	226	0
NOV. 02...	6.8	20	36	76	20	16	2.3	236	0
MAR., 1973 16...	5.6	240	63	77	19	13	2.2	234	0
AUG. 23...	9.6	20	11	83	18	12	2.4	268	0

DATE	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
AUG., 1971 19...	200	50	38	1.3	.10	250	50	10	2
APR., 1972 25...	185	73	36	.3	.90	300	110	20	6
NOV. 02...	194	60	31	.2	.40	270	77	5	6
MAR., 1973 16...	192	64	31	.3	.50	270	78	30	8
AUG. 23...	220	47	31	.3	.03	280	64	20	3

DATE	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
AUG., 1971 19...	0	0	0	0	<.5	1	7	90
APR., 1972 25...	--	--	--	--	--	--	--	--
NOV. 02...	6	0	0	1	<.5	--	--	--
MAR., 1973 16...	--	--	--	--	--	--	--	--
AUG. 23...	12	0	0	0	<.5	0	3	50

04174050 HURON RIVER AT DELHI MILLS, MICH.--Continued

PESTICIDE ANALYSES, AUGUST 1971 TO SEPTEMBER 1973

DATE	TOTAL ORGANIC CARBON (C) (MG/L)	ALDRIN (UG/L)	CHLOR-DANE (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DI-AZINON (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	ETHION (UG/L)
AUG., 1971 19...	7.0	.00	--	M.00	.00	.00	.00	.00	.00	.00
OCT. 28...	5.0	.00	--	.00	.00	.00	.00	.00	.00	.00
DEC. 15...	6.0	.00	--	.00	.00	.00	.00	.00	.00	.00
MAR., 1972 06...	2.0	.00	E.0	.00	.00	.00	.00	.00	.00	.00
APR. 25...	4.0	.00	E.0	.00	.00	.00	.00	.00	.00	.00
JUNE 19...	9.0	.00	E.0	.00	.00	.00	.00	.00	.00	.00
AUG. 25...	1.0	.00	E.0	.00	.00	.00	.00	.00	.00	.00
NOV. 02...	3.0	.00	E.0	.00	.00	.00	.00	.00	.00	.00
JAN., 1973 03...	6.0	.00	.0	.00	.00	.00	.00	.00	.00	.00
MAR. 16...	--	.00	.0	.00	.00	.00	.00	.00	.00	.00
MAY 10...	20	.00	.0	.00	.00	.00	.00	.00	.00	.00
JULY 09...	5.0	.00	.0	M.00	M.00	M.00	.00	.00	.00	.00
AUG. 23...	11	.00	.0	M.00	.00	.00	.00	.00	.00	.00

DATE	HEPTA-CHLOR (UG/L)	LINDANE (UG/L)	METHYL PARA-THION (UG/L)	METHYL TRI-THION (UG/L)	PARA-THION (UG/L)	PCB (UG/L)	TRI-THION (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)
AUG., 1971 19...	.00	.00	.00	.00	.00	E.0	.00	.20	.00	.70
OCT. 28...	.00	.00	.00	.00	.00	M.0	.00	.08	.00	.10
DEC. 15...	.00	.00	.00	.00	.00	E.0	.00	.04	.00	.07
MAR., 1972 06...	.00	.00	.00	.00	.00	E.0	.00	.02	.00	.03
APR. 25...	.00	.00	.00	.00	.00	E.0	.00	.07	.00	.11
JUNE 19...	.00	.00	.00	.00	.00	E.0	.00	.00	.00	.00
AUG. 25...	.00	.00	.00	.00	.00	E.0	.00	.08	.00	.20
NOV. 02...	.00	.00	.00	.00	.00	E.0	.00	.03	.00	.03
JAN., 1973 03...	.00	.00	.00	.00	.00	.0	.00	.07	.00	.10
MAR. 16...	.00	.00	.00	.00	.00	.0	.00	M.00	.00	.18
MAY 10...	.00	.00	.00	.00	.00	.0	.00	.07	.00	.03
JULY 09...	.00	.00	.00	.00	.00	.0	.00	.06	.00	.06
AUG. 23...	.00	.00	.00	.00	.00	.0	.00	.02	.00	.01

04174500 HURON RIVER AT ANN ARBOR, MICH.

LOCATION.--Lat 42°17'10", long 83°44'00", in NW¼ sec.28, T.2 S., R.6 E., Washtenaw County, gaging station on left bank 100 ft (30 m) upstream from bridge at Wall Street in Ann Arbor, 0.7 mi (0.4 km) downstream from Argo Dam, at 4.2 mi (6.8 km) upstream from Geddes Dam.
DRAINAGE AREA.--729 mi² (1,890 km²).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 JULY 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971									
17...	0825	74	.21	.01	.49	.07	.03	600	7.6
OCT.									
28...	1245	180	.42	.02	.32	.03	.03	560	8.1
DEC.									
13...	1105	222	.11	.03	.36	.08	.05	560	7.9
MAR., 1972									
06...	1345	265	.03	.04	.32	.06	.04	625	6.6
APR.									
24...	1230	900	.14	.00	.22	.03	.01	560	8.6
JUNE									
19...	1235	155	.06	.02	.75	.10	.05	595	8.4
AUG.									
23...	1245	180	.03	.01	.76	.05	.03	555	8.1
OCT.									
31...	1615	531	.44	.01	.66	.09	.08	570	8.2
JAN., 1973									
05...	1115	1060	1.1	.00	.29	.03	.02	500	8.2
MAR.									
14...	1015	1470	.06	.01	.98	.08	.05	580	7.5
MAY									
10...	1145	769	.13	.00	.42	.04	.00	570	8.1
JULY									
09...	1040	713	.34	.00	.81	.05	.05	580	7.6

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
17...	21.0	8.4	96	3.1	>11000	430	.0	21.0	--
OCT.									
28...	16.5	10.5	110	3.5	110000	1500	.0	21.0	--
DEC.									
13...	4.0	16.3	127	4.2	4300	900	.0	10.0	0
MAR., 1972									
06...	.0	15.7	110	8.9	430	40	.0	-4.0	0
APR.									
24...	9.0	12.5	111	6.4	430	230	.0	8.0	--
JUNE									
19...	24.0	14.2	175	5.8	2300	400	.1	25.0	--
AUG.									
23...	25.0	8.6	106	2.8	110000	1100	.0	26.0	--
OCT.									
31...	8.0	11.6	100	2.9	15000	900	.0	10.5	--
JAN., 1973									
05...	.5	13.3	95	2.7	2100	400	.0	-4.0	0
MAR.									
14...	5.0	11.8	95	2.8	7500	<300	.0	7.0	0
MAY									
10...	15.0	10.4	105	3.5	21000	200	.0	22.5	--
JULY									
09...	25.5	8.1	100	2.8	46000	230	.0	25.0	--

04174500 HURON RIVER AT ANN ARBOR, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	6.8	40	47	79	17	25	3.0	248	0	203	57	51
APR., 1972												
24...	11	370	67	77	21	15	2.4	224	0	184	77	30
OCT.												
31...	6.4	10	16	78	18	16	2.3	242	0	198	59	32
MAR., 1973												
14...	5.5	30	15	76	20	13	2.4	230	0	189	64	31

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17...	.4	.04	270	66	15	20	10	0	0	3	10
APR., 1972											
24...	.3	1.1	280	95	17	6	--	--	--	--	--
OCT.											
31...	.2	.02	270	71	10	3	5	0	0	3	<.5
MAR., 1973											
14...	.4	.80	270	82	20	10	--	--	--	--	--

04174510 ALLEN CREEK AT ANN ARBOR, MICH.

LOCATION.--Lat 42°17'51", long 083°43'54", in SW¼ sec.21, T.2 S., R.6 E., Washtenaw County, at Island Drive in Ann Arbor, 25 ft (7.7 m) upstream from Huron River.
DRAINAGE AREA.--7.02 mi² (18.2 km²).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
AUG., 1971								
17...	0935	.62	.02	.39	.10	.04	650	8.1
OCT.								
28...	1320	.52	.01	.26	.05	.05	890	7.9
DEC.								
13...	1205	.11	.02	.12	.05	.03	850	8.3
MAR., 1972								
06...	1410	.07	.05	.17	.05	.01	850	7.2
APR.								
24...	1245	.11	.00	.14	.04	.03	670	8.8
JUNE								
19...	1315	.07	.02	.34	.10	.04	810	8.5
AUG.								
23...	1330	.05	.02	.66	.05	.05	750	8.2
OCT.								
31...	1655	.24	.01	.34	.06	.06	850	8.1
JAN., 1973								
05...	1100	1.8	.01	.24	.04	.02	605	8.2
MAR.								
14...	1045	.20	.01	.45	.09	.06	640	7.7
MAY								
10...	1135	.33	.00	.19	.03	.00	760	8.2
JULY								
09...	1130	.42	.00	.98	.06	.06	825	7.6

DATE	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	COM-PLETE COLI-FORM (MPN)	FECAL COLI-FORM (EC BROTH) (MPN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	AIR TEMPER-ATURE (DEG C)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
AUG., 1971									
17...	19.5	11.7	130	.4	>11000	2400	.0	21.0	--
OCT.									
28...	16.0	10.8	111	2.2	46000	4300	.0	21.0	--
DEC.									
13...	3.0	16.0	121	2.5	4300	700	.0	4.0	0
MAR., 1972									
06...	.0	15.4	108	4.6	430	430	.1	.0	3
APR.									
24...	9.0	12.8	113	5.6	230	90	.0	7.0	--
JUNE									
19...	22.0	15.8	190	2.0	>240000	700	.0	26.0	--
AUG.									
23...	24.0	9.0	108	1.8	150000	15000	.0	29.0	--
OCT.									
31...	7.5	10.5	89	3.3	110000	9300	.0	9.0	--
JAN., 1973									
05...	.0	13.6	96	2.5	24000	4300	.0	-5.0	1
MAR.									
14...	6.0	11.8	91	2.4	21000	<300	.0	9.0	0
MAY									
10...	16.5	9.8	104	4.1	20000	4000	.0	23.5	--
JULY									
09...	22.0	8.3	98	2.5	4600	1500	.0	29.5	--

04174510 ALLEN CREEK AT ANN ARBOR, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	10	50	42	98	30	28	3.3	326	0	267	74	68
APR., 1972												
24...	9.6	420	78	84	22	27	3.2	226	0	185	79	62
OCT.												
31...	11	10	13	120	29	26	4.3	324	0	266	91	68
MAR., 1973												
14...	5.5	60	46	75	18	24	3.6	202	0	166	61	57

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17...	.3	.50	370	100	5	1	6	0	0	1	2.5
APR., 1972											
24...	.3	.90	300	120	20	8	--	--	--	--	--
OCT.											
31...	.2	.20	420	150	5	4	5	0	0	10	<.5
MAR., 1973											
14...	.2	.80	260	94	20	85	--	--	--	--	--

04174518 PITTSFIELD DRAIN AT ANN ARBOR, MICH.

LOCATION.--Lat 42°15'54", long 083°41'10", in NE¼ sec.35, T.2 S., R.6 E., Washtenaw County, at Huron River Drive, 2.5 mi (4.0 km) east of Ann Arbor and 200 ft (61 m) above mouth.

DRAINAGE AREA.--11.0 mi² (28.5 km²).

PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
AUG., 1971								
17...	0820	.52	.05	.80	.19	.08	810	7.8
OCT.								
27...	0940	.42	.02	.30	.07	.07	990	7.6
DEC.								
13...	1235	.14	.03	.19	.04	.02	1100	8.0
MAR., 1972								
06...	1430	.02	.05	.05	.03	.02	1200	7.1
APR.								
24...	1310	.18	.01	.17	.05	.03	990	8.6
JUNE								
19...	1330	.08	.03	.32	.17	.06	1200	8.5
AUG.								
23...	1345	.07	.01	.60	.07	.07	560	7.8
OCT.								
31...	1325	.19	.00	.37	.13	.09	1030	8.3
JAN., 1973								
05...	1040	2.0	.01	.20	.06	.02	970	8.2
MAR.								
14...	1110	.46	.01	.31	.20	.02	525	7.6
MAY								
10...	1115	.06	.01	.08	.04	.02	1020	8.0
JULY								
09...	1200	.42	.00	.70	.05	.05	1050	7.7

DATE	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	COM-PLETE COLI-FORM (MPN)	FECAL COLI-FORM (EC BROTH) (MPN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	AIR TEMPER-ATURE (DEG C)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
AUG., 1971									
17...	15.5	6.4	66	1.7	39000	11000	.0	20.0	--
OCT.									
27...	13.5	9.2	89	3.0	9300	400	.0	17.0	--
DEC.									
13...	4.0	14.2	111	1.6	4300	1500	.0	4.0	0
MAR., 1972									
06...	.0	15.2	107	2.8	930	930	.0	-6.0	2
APR.									
24...	8.5	12.5	108	4.7	4300	2300	.0	8.0	--
JUNE									
19...	18.0	13.4	147	.1	4300	2300	.0	28.5	--
AUG.									
23...	21.0	7.8	89	2.3	>240000	110000	.0	27.0	--
OCT.									
31...	7.0	11.4	95	2.2	4300	<300	.0	7.0	--
JAN., 1973									
05...	1.0	12.9	93	2.1	24000	4300	.0	-5.0	0
MAR.									
14...	6.5	10.4	86	.7	21000	7500	.0	7.0	0
MAY									
10...	13.5	11.9	117	3.4	43000	930	.0	22.5	--
JULY									
09...	19.0	8.2	90	3.2	150000	750	.0	20.0	--

04174518 PITTSFIELD DRAIN AT ANN ARBOR, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	12	200	240	100	25	40	5.3	298	0	244	98	74
APR., 1972												
24...	14	440	180	130	36	42	3.8	324	0	266	160	88
OCT.												
31...	11	0	0	150	32	35	4.1	362	0	297	150	78
MAR., 1973												
14...	4.0	100	10	67	13	23	2.7	174	0	143	51	50

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17...	.7	.50	350	100	25	1	11	0	0	2	1.3
APR., 1972											
24...	.3	1.3	470	210	10	3	--	--	--	--	--
OCT.											
31...	.2	.04	510	210	3	2	3	1	0	32	<.5
MAR., 1973											
14...	.3	.49	220	80	20	490	--	--	--	--	--

04174695 FLEMING CREEK AT GALE ROAD AT DIXBORO, MICH.

LOCATION.--Lat 42°18'29", long 083°39'23", in SW¼ sec.18, T.2 S., R.7 E., Washtenaw County, at Gale Rd. at Dixboro, 5.0 mi (8.0 km) northeast of Ann Arbor.

DRAINAGE AREA.--24 mi^2 (62 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
AUG., 1971									
17...	1150	.15	.02	.44	.01	.00	650	8.6	21.0
OCT.									
28...	1215	.62	.02	.26	.05	.04	725	7.3	15.0
DEC.									
14...	0830	.13	.02	.39	.13	.07	650	7.9	4.0
MAR., 1972									
06...	1500	.10	.05	.13	.05	.03	725	7.4	1.0
APR.									
24...	1330	.15	.00	.27	.05	.02	650	8.3	8.0
JUNE									
19...	1400	.06	.02	.42	.08	.06	710	8.1	20.5
AUG.									
23...	1415	.05	.01	.66	.04	.03	610	7.9	22.0
OCT.									
31...	1355	.47	.01	1.1	.05	.04	680	7.1	7.5
JAN., 1973									
05...	0910	1.4	.01	.20	.06	.05	600	8.1	.0
MAR.									
14...	1145	.13	.02	.10	.22	.07	610	6.9	6.0
MAY									
10...	1100	.06	.00	.12	.05	.01	640	7.8	15.5
JULY									
09...	1230	.40	.00	.70	.08	.03	665	7.7	24.0

DATE	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971								
17...	11.0	126	.7	11000	1500	.0	25.0	--
OCT.								
28...	8.4	85	2.3	24000	900	.0	19.0	--
DEC.								
14...	10.1	79	1.3	9300	<300	.0	.0	--
MAR., 1972								
06...	11.9	86	4.7	430	230	.2	-6.0	3
APR.								
24...	10.4	98	4.5	390	390	.0	13.0	0
JUNE								
19...	12.4	142	2.5	4300	>300	.0	28.0	--
AUG.								
23...	9.8	117	2.9	4300	400	.0	29.0	--
OCT.								
31...	11.8	83	2.0	9300	<30	.0	8.0	--
JAN., 1973								
05...	12.4	87	2.2	9300	230	.0	-3.0	1
MAR.								
14...	10.4	86	2.5	4300	400	.0	7.0	0
MAY								
10...	8.6	87	2.7	15000	930	.0	23.0	--
JULY								
09...	8.3	101	1.8	1200	750	.0	30.5	--

04174695 FLEMING CREEK AT GALE ROAD AT DIXBORO, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	12	80	61	78	24	23	2.5	300	0	246	39	42
APR., 1972												
24...	7.5	430	69	79	21	15	3.3	210	0	172	89	33
OCT.												
31...	12	30	47	100	26	18	4.0	320	0	262	81	39
MAR., 1973												
14...	7.4	230	44	75	19	12	3.3	222	0	182	62	36

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17...	.4	.16	290	44	5	7	10	0	0	1	.9
APR., 1972											
24...	.2	1.6	280	110	35	3	--	--	--	--	--
OCT.											
31...	.2	.40	360	94	10	2	7	0	0	7	<.5
MAR., 1973											
14...	.3	1.0	270	85	25	15	--	--	--	--	--

04174800 HURON RIVER AT YPSILANTI, MICH.

LOCATION.--Lat 42°14'27", long 083°36'43", in NE¼ sec.9, T.3 S., R.7 E., Washtenaw County, at Michigan Ave. in Ypsilanti, 4.8 mi (7.7 km) upstream from Ford Dam, and 86.6 mi (139 km) above mouth.
DRAINAGE AREA.--808 mi^2 (2,090 km^2).
PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
AUG., 1971									
17...	0950	1.3	.24	2.0	.65	.57	650	8.1	23.5
OCT.									
28...	0845	1.1	.12	.38	.18	.02	640	7.3	15.5
DEC.									
14...	1400	.12	.03	.96	.32	.02	800	8.4	4.0
MAR., 1972									
07...	0745	.92	.06	2.4	.15	.10	775	6.7	.0
APR.									
24...	1455	.15	.00	.36	.17	.04	610	8.7	8.0
JUNE									
20...	0810	.13	.09	.58	.17	.10	725	7.8	23.0
AUG.									
24...	0745	.13	.05	.27	.12	.12	610	7.7	23.0
NOV.									
01...	0915	.09	.04	.76	.07	.07	600	7.5	8.0
JAN., 1973									
05...	0755	1.2	.01	.43	.05	.02	590	7.8	.5
MAR.									
14...	1415	.06	.02	.39	.08	.03	600	7.7	6.0
MAY									
10...	0940	.06	.00	.32	.02	.01	610	8.1	15.5
JULY									
11...	0815	.62	.01	.74	.13	.10	625	7.9	25.0
AUG.									
23...	0815	.06	.02	1.1	.12	.10	575	7.9	20.5

DATE	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971								
17...	5.9	10	10	4600	150	.0	24.0	--
OCT.								
28...	7.8	79	9.9	15000	2800	.0	13.5	--
DEC.								
14...	13.4	104	4.1	2100	400	.0	3.0	0
MAR., 1972								
07...	15.2	106	2.4	<30	<30	.0	-4.0	0
APR.								
24...	12.4	106	6.8	2400	40	.0	10.5	--
JUNE								
20...	6.8	80	3.4	<3000	<3000	.0	23.0	--
AUG.								
24...	4.9	58	1.8	2400	90	.0	26.0	--
NOV.								
01...	10.8	92	2.1	11000	400	.0	7.5	--
JAN., 1973								
03...	13.6	96	4.2	9300	400	.0	-7.0	0
MAR.								
14...	11.8	98	2.7	21000	1500	.0	11.0	0
MAY								
10...	10.2	104	2.8	4000	230	.0	21.0	--
JULY								
11...	6.6	81	3.0	21000	230	.0	20.0	--
AUG.								
23...	7.8	89	2.2	2800000	200	.0	15.0	--

04174800 HURON RIVER AT YPSILANTI, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971 17...	7.6	30	45	70	21	34	4.3	222	0	182	69	54
APR., 1972 24...	13	780	84	88	16	19	2.7	224	0	184	82	38
NOV. 01...	6.1	10	17	79	19	20	2.8	236	0	194	62	39
MAR., 1973 14...	5.5	60	18	82	17	15	2.7	226	0	185	66	36
AUG. 23...	9.7	20	14	79	22	17	3.3	250	0	205	53	39

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971 17...	.5	3.4	260	78	5	3	6	0	0	0	2.4
APR., 1972 24...	.3	1.4	290	100	25	5	--	--	--	--	--
NOV. 01...	.2	.60	280	82	5	2	7	0	1	0	<.5
MAR., 1973 14...	.3	.80	280	90	20	6	--	--	--	--	--
AUG. 23...	.3	.40	290	81	25	6	10	0	0	0	<.5

04174900 FORD LAKE NEAR RAWSONVILLE, MICH.

LOCATION.--Lat 42°12'22", long 083° 33'23", in SW¼ sec.24, T.3 S., R.7 E., Washtenaw County, at upstream side of Ford Dam at Rawsonville Rd., 1 mi (1.6 km) west of Rawsonville, 3.5 mi (5.6 km) southeast of Ypsilanti, and 37.4 mi (60.1 km) above mouth.

DRAINAGE AREA.--814 mi^2 (2,110 km^2).

PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG., 1971									
18...	0900	.42	.11	1.2	.39	.32	600	7.0	23.0
OCT.									
27...	1130	1.7	.18	1.0	.29	.24	650	8.9	18.0
DEC.									
13...	1330	.08	.04	1.4	.15	.11	625	8.5	2.0
MAR., 1972									
07...	0850	.82	.06	1.8	.19	.04	760	7.6	2.5
APR.									
24...	1530	.15	.02	.78	.10	.09	580	8.0	10.0
JUNE									
20...	0915	.05	.05	.46	.16	.03	625	8.3	22.0
AUG.									
24...	0845	.06	.04	.49	.03	.03	570	8.3	24.0
NOV.									
01...	0955	.46	.05	.06	.06	.05	590	8.1	9.0
JAN., 1973									
05...	0830	1.6	.01	.41	.06	.05	570	8.3	.5
MAR.									
14...	1455	.06	.04	.64	.28	.08	610	7.7	6.5
MAY									
10...	0910	.27	.00	.51	.07	.00	620	8.1	14.5
JULY									
11...	0900	.12	.00	1.0	.12	.09	560	8.3	25.5
AUG.									
23...	0935	.06	.01	1.1	.09	.07	530	7.8	22.5

DATE	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	COM-PLETE COLI-FORM (MPN)	FECAL COLI-FORM (EC BROTH) (MPN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	AIR TEMPER-ATURE (DEG C)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
AUG., 1971								
18...	6.2	73	--	400	<300	.0	29.0	--
OCT.								
27...	8.9	96	4.8	46000	<300	.0	20.0	--
DEC.								
13...	15.3	112	3.4	<300	<300	.0	2.0	0
MAR., 1972								
07...	12.2	89	4.0	200	<30	.2	-6.0	0
APR.								
24...	9.2	83	5.5	430	90	.0	9.0	--
JUNE								
20...	8.2	96	2.2	110000	2300	.0	23.5	--
AUG.								
24...	10.4	125	3.2	390	210	.0	26.0	--
NOV.								
01...	11.0	96	3.4	40	<30	.0	11.5	--
JAN., 1973								
05...	12.3	87	2.5	24000	1500	.0	-4.0	1
MAR.								
14...	10.6	88	2.2	15000	900	.0	12.0	0
MAY								
10...	9.2	92	3.8	14000	<30	.0	17.0	--
JULY								
11...	10.6	126	3.8	9300	40	.0	18.5	--
AUG.								
23...	4.8	57	3.1	1100000	30	.0	16.0	--

04174900 FORD LAKE NEAR RAWSONVILLE, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
AUG., 1971									
18...	4.0	40	40	71	19	30	3.8	210	0
APR., 1972									
24...	14	820	84	88	14	21	3.2	204	0
NOV.									
01...	3.3	10	7	71	21	27	3.5	208	0
MAR., 1973									
14...	5.0	60	17	76	18	18	2.6	216	0
AUG.									
23...	2.9	20	0	63	19	17	3.6	198	0

DATE	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
AUG., 1971									
18...	172	69	52	.5	1.4	260	88	15	1
APR., 1972									
24...	167	87	46	.3	1.6	280	110	20	8
NOV.									
01...	171	75	48	.4	.60	260	92	5	4
MAR., 1973									
14...	177	63	40	.3	.80	260	85	20	5
AUG.									
23...	162	52	39	.3	.84	240	75	25	5

DATE	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
AUG., 1971								
18...	6	0	0	0	<.5	12	0	210
APR., 1972								
24...	--	--	--	--	--	--	--	--
NOV.								
01...	6	0	0	2	<.5	16	0	30
MAR., 1973								
14...	--	--	--	--	--	--	--	--
AUG.								
23...	9	0	0	0	.5	14	3	50

04175280 STONY CREEK NEAR OAKVILLE, MICH.

LOCATION.- Lat 42°05'54", long 083°36'31", in SE¼ sec.21, T.4 S., R.7 E., Washtenaw County, at Willow Rd., 2.7 mi (4.3 km) northwest of Oakville, 1.5 mi. (2.4 km) upstream from Sugar Creek, and 28.9 mi (46.5 km) above mouth.

DRAINAGE AREA.--6.32 mi^2 (10.0 km^2).

PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971 17...	1115	.72	.02	.42	.03	.02	720	8.2
OCT. 27...	1525	1.3	.02	.22	.04	.03	710	8.2
DEC. 17...	0830	.30	.02	.10	.25	.21	850	7.5
MAR., 1972 07...	1000	.10	.05	.10	.06	.02	750	8.0
APR. 26...	0910	.90	.02	.80	.03	.03	875	8.2
JUNE 22...	1045	.20	.01	.02	.06	.04	850	6.9
AUG. 24...	1005	.06	.02	.20	.07	.06	740	8.1
NOV. 01...	1145	.10	.01	.24	.07	.05	810	7.7
JAN., 1973 04...	1615	8.7	.02	.23	.05	.04	660	7.8
MAR. 15...	0805	.06	.04	.29	.24	.07	660	7.0
MAY 10...	0805	1.3	.00	.20	.13	.05	840	7.3
JULY 11...	1045	.06	.00	.58	.09	.07	790	7.8

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971 17...	20.0	11.4	127	.8	>11000	--	--	26.0	--
OCT. 27...	15.0	8.8	89	1.9	46000	700	.0	23.0	--
DEC. 17...	2.5	14.8	110	1.4	1500	<300	.0	.0	0
MAR., 1972 07...	.0	15.2	106	2.2	1200	230	.0	-9.0	4
APR. 26...	6.0	11.4	93	1.0	2300	900	.0	10.0	--
JUNE 22...	11.5	9.7	91	.0	23000	<3000	.0	9.0	--
AUG. 24...	21.0	8.4	95	.7	110000	2100	.0	29.0	--
NOV. 01...	7.5	10.3	87	1.1	4300	700	.0	11.0	--
JAN., 1973 04...	1.0	11.2	81	1.5	>240000	430	.1	8.5	0
MAR. 15...	7.5	8.3	70	2.5	>240000	21000	.0	13.0	0
MAY 10...	12.5	8.0	77	2.7	>2400000	1500	.0	17.5	--
JULY 11...	19.5	8.0	89	3.8	15000	7500	.0	23.0	--

04175280 STONY CREEK NEAR OAKVILLE, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	10	50	52	91	21	30	2.7	300	0	246	48	66
APR., 1972												
26...	14	210	74	110	26	20	3.2	244	0	200	110	60
NOV.												
01...	11	0	0	110	22	28	2.8	308	0	253	81	52
MAR., 1973												
15...	7.1	270	54	90	21	9.4	3.8	202	0	166	76	40

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17...	.2	.70	310	64	5	1	0	0	0	0	2.9
APR., 1972											
26...	.2	6.6	380	180	9	7	--	--	--	--	--
NOV.											
01...	.1	.80	360	110	5	1	8	0	0	2	<.5
MAR., 1973											
15...	.3	6.6	310	140	35	40	--	--	--	--	--

04175290 SUGAR CREEK NEAR OAKVILLE, MICH.

LOCATION.--Lat 42°05'54", long 083°36'31", in NE¼ sec.33, T.4 S., R.7 E., Washtenaw County, at Fuller Rd., 1.7 mi (2.7 km) northwest of Oakville, 0.2 mi (0.3 km) above Stony Creek.

DRAINAGE AREA.--13.5 mi^2 (35.0 km^2).

PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
AUG., 1971								
17...	1155	.20	.01	.51	.05	.05	560	7.1
OCT.								
27...	1400	.62	.02	.37	.05	.05	760	7.8
DEC.								
17...	0900	1.0	.03	.06	.14	.06	1000	7.5
MAR., 1972								
07...	1005	.32	.06	.32	.15	.12	890	6.1
APR.								
26...	0900	1.0	.02	.49	.04	.03	925	8.1
JUNE								
22...	1000	.59	.03	.08	.06	.06	800	7.3
AUG.								
24...	0945	.07	.02	.22	.11	.07	825	8.0
NOV.								
01...	1130	.33	.02	.37	.08	.06	1000	7.5
JAN., 1973								
04...	1545	6.4	.01	.19	.03	.03	585	7.9
MAR.								
15...	0900	.06	.01	.22	.16	.06	625	7.4
MAY								
10...	0830	.85	.00	.08	.03	.01	780	7.7
JULY								
11...	0945	2.4	.01	.71	.08	.06	810	7.7

DATE	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	COM-PLETE COLI-FORM (MPN)	FECAL COLI-FORM (EC BROTH) (MPN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	AIR TEMPER-ATURE (DEG C)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
AUG., 1971									
17...	18.5	7.1	77	3.2	4600	930	.0	26.0	--
OCT.									
27...	17.0	5.4	57	2.3	2300	<300	.0	24.0	--
DEC.									
17...	2.0	15.0	110	1.9	24000	24000	.0	.0	0
MAR., 1972									
07...	.0	12.5	87	3.1	24000	1500	.0	-9.0	4
APR.									
26...	5.5	10.4	84	1.4	11000	930	.0	12.5	--
JUNE									
22...	13.5	7.5	73	.6	43000	15000	.0	9.5	--
AUG.									
24...	20.5	7.5	85	.8	15000	400	.0	29.0	--
NOV.									
01...	7.5	10.8	92	.3	2300	<300	.0	10.0	--
JAN., 1973									
04...	1.0	10.8	78	1.6	>240000	4600	.1	-9.0	0
MAR.									
15...	8.0	9.0	77	1.7	110000	9000	.0	20.0	0
MAY									
10...	13.0	7.7	74	2.7	93000	93000	.0	17.0	--
JULY									
11...	19.0	6.7	74	2.9	120000	15000	.0	26.0	--

04175290 SUGAR CREEK NEAR OAKVILLE, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	3.0	70	46	73	20	14	4.7	230	0	189	63	34
APR., 1972												
26...	6.7	--	--	120	22	19	3.4	222	0	182	120	56
NOV.												
01...	7.3	20	6	150	26	29	3.0	314	0	258	130	83
MAR., 1973												
15...	6.0	340	29	81	14	12	3.0	186	0	153	70	35

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17...	.1	.02	260	71	20	6	6	0	0	2	1.0
APR., 1972											
26...	.3	8.9	390	210	7	3	--	--	--	--	--
NOV.											
01...	.2	4.2	480	220	--	2	5	4	0	2	<.5
MAR., 1973											
15...	.3	3.9	260	110	20	40	--	--	--	--	--

04175330 PAINT CREEK AT OAKVILLE, MICH.

LOCATION.--Lat 42°03'44", long 083°36'30", in NE¼ sec.34, T.4 S., R.7 E., Washtenaw County, at Lise Rd., 1.0 mi (1.6 km) north of Oakville, 0.9 mi (1.4 km) upstream from Stony Creek.

DRAINAGE AREA.--36.9 mi^2 (90.4 km^2).

PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971 17...	1255	.18	.01	.39	.03	.02	520	8.6
OCT. 27...	1435	.77	.02	.30	.03	.02	710	8.1
DEC. 17...	0930	.71	.02	.39	.08	.07	860	7.0
MAR., 1972 07...	1015	.14	.04	.20	.06	.02	750	7.7
APR. 26...	0840	.51	.02	.34	.04	.04	780	8.2
JUNE 22...	1030	.34	.02	.09	.06	.05	700	6.3
AUG. 24...	0925	.07	.02	.24	.08	.06	540	8.1
NOV. 01...	1100	.13	.01	.37	.07	.06	740	7.5
JAN., 1973 04...	1520	3.0	.01	.27	.06	.04	455	8.1
MAR. 15...	0920	.00	.00	.25	.33	.05	570	7.3
MAY 10...	0840	.53	.01	.22	.08	.00	780	7.8
JULY 11...	1010	1.1	.00	.02	.12	.07	675	7.8

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971 17...	20.0	9.7	108	.9	11000	230	.0	27.0	--
OCT. 27...	17.0	9.0	95	3.4	46000	<300	.0	23.0	--
DEC. 17...	2.0	15.2	112	1.0	9300	700	.0	.0	0
MAR., 1972 07...	.0	12.7	88	1.6	1500	90	.0	-9.0	4
APR. 26...	6.5	9.6	79	1.7	4300	900	.0	12.0	--
JUNE 22...	13.5	8.3	81	.0	150000	23000	.0	9.0	--
AUG. 24...	21.0	7.1	81	.8	9300	700	.0	23.0	--
NOV. 01...	6.5	10.6	88	2.0	2300	<300	.0	10.0	--
JAN., 1973 04...	.5	11.5	81	3.7	>240000	2400	.1	-8.0	0
MAR. 15...	9.0	8.6	75	2.2	>240000	9000	.0	16.5	0
MAY 10...	14.5	7.9	79	3.6	460000	9000	.0	16.0	--
JULY 11...	19.5	6.7	74	2.4	1100000	46000	.0	22.0	--

04175330 PAINT CREEK AT OAKVILLE, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
17...	6.8	50	44	77	19	5.7	2.0	252	0	207	50	16
APR., 1972												
26...	12	300	110	120	23	14	2.9	260	0	213	110	46
NOV.												
01...	11	10	10	120	22	11	2.9	310	0	254	91	35
MAR., 1973												
15...	6.2	320	43	76	14	9.4	3.9	184	0	151	66	31

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
17....	.3	.06	270	63	5	6	0	0	0	1	.7
APR., 1972											
26....	.3	4.3	390	180	8	5	--	--	--	--	--
NOV.											
01....	.2	1.1	390	84	10	1	0	0	0	0	<.5
MAR., 1973											
15....	.3	2.6	250	90	30	65	--	--	--	--	--

04175597 RIVER RAISIN NEAR SHARONVILLE, MICH.

LOCATION.--Lat 42°10'04", long 084°07'21", in SW¼ sec.31, T.3 S., R.3 E., Washtenaw County, at Sharon Valley Rd., 2.0 mi (3.2 km) southwest of Sharonville, 4 mi (6.4 km) northwest of Manchester, and 113 mi (182 km) above mouth.

DRAINAGE AREA.--121 mi² (313 km²).

PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department. Discharge estimates based on records at gaging station near Manchester, adjusted for drainage area.

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971									
19...	1115	E10	.40	.01	.46	.03	.02	450	8.3
OCT.									
29...	1215	E26	.42	.02	.17	.02	.01	600	8.2
DEC.									
16...	1000	E104	.21	.02	.52	.10	.05	400	7.6
MAR., 1972									
08...	0910	E57	.06	.02	.27	.14	.07	495	8.1
APR.									
25...	1235	E177	.05	.02	.05	.03	.01	470	8.4
JUNE									
21...	1145	E29	.06	.01	.61	.08	.07	480	8.1
AUG.									
24...	1445	E39	.05	.02	.27	.03	.02	440	8.3
NOV.									
02...	1155	E76	.05	.00	.44	.11	.07	495	7.6
JAN., 1973									
04...	1010	E216	.70	.01	.02	.01	.01	440	7.5
MAR.									
15...	1435	E232	.08	.02	.30	.13	.02	480	7.9
MAY									
09...	1315	E159	.33	.00	.34	.06	.00	485	8.0
JULY									
10...	1445	E113	.40	.00	.70	.07	.06	480	7.7
AUG.									
23...	1400	E62	.05	.01	.80	.05	.04	600	7.9

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
19...	21.5	9.6	112	4.6	15000	900	.0	20.0	--
OCT.									
29...	15.0	7.8	80	.5	3900	<300	.0	16.0	--
DEC.									
16...	4.5	10.0	85	.8	2300	900	.0	3.0	0
MAR., 1972									
08...	.0	13.2	92	.9	430	90	.0	-5.0	1
APR.									
25...	9.0	10.8	97	1.6	230	90	.0	13.0	0
JUNE									
21...	18.5	7.3	79	1.2	<3000	<3000	.0	13.0	--
AUG.									
24...	25.0	8.0	98	1.6	1500	40	.0	28.0	--
NOV.									
02...	8.5	9.6	83	2.2	7500	700	.0	21.5	--
JAN., 1973									
04...	.5	12.6	89	1.1	46000	230	.0	1.5	1
MAR.									
15...	10.0	9.7	87	2.2	110000	7500	.0	15.5	0
MAY									
09...	--	8.9	91	1.2	4000	<30	.0	24.0	--
JULY									
10...	27.0	5.9	75	2.2	43000	750	.0	30.0	--
AUG.									
23...	18.5	10.0	110	3.1	2100000	110000	.0	22.0	--

STREAMS TRIBUTARY TO LAKE ERIE

04175597 RIVER RAISIN NEAR SHARONVILLE, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
19...	10	30	45	58	21	7.5	1.7	240	0	197	30	16
APR., 1972												
25...	10	160	35	62	21	6.4	1.7	219	0	180	53	13
NOV.												
02...	8.8	20	10	71	19	7.7	2.2	248	0	203	40	15
MAR., 1973												
15...	9.1	60	0	64	17	6.0	1.9	226	0	185	41	16
AUG.												
23...	13	10	0	74	17	5.6	1.7	260	0	213	29	14

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
19...	.3	.40	230	34	10	2	9	0	0	1	<.5
APR., 1972											
25...	.3	.30	240	62	22	2	--	--	--	--	--
NOV.											
02...	.2	.10	250	51	20	1	9	0	1	5	<.5
MAR., 1973											
15...	.3	.40	230	46	20	6	--	--	--	--	--
AUG.											
23...	.2	.20	260	44	25	4	9	0	0	0	<.5

04175610 RIVER RAISIN AT MANCHESTER, MICH.

LOCATION.--Lat 42°09'00", long 084°01'26", in SE¼ sec.1, T.4 S., R.3 E., Washtenaw County, at Austin Rd. 1 mi (1.6 km) east of Manchester, 0.6 mi (1 km) below Ford Dam, 104 mi (168 km) above mouth.
DRAINAGE AREA.--148 mi² (383 km²).
PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG., 1971									
19...	0950	.22	.03	.71	.16	.13	500	7.9	22.0
OCT.									
29...	1110	.76	.03	.24	.12	.11	500	8.1	15.0
DEC.									
16...	1030	.08	.01	.14	.13	.03	520	7.8	4.0
MAR., 1972									
08...	0825	.08	.02	.18	.11	.07	500	7.3	.0
APR.									
25...	1315	.05	.01	.08	.06	.03	480	8.5	8.0
JUNE									
21...	1245	.05	.02	.78	.12	.12	520	8.3	20.5
AUG.									
24...	1415	.05	.02	.32	.08	.08	460	8.4	24.5
NOV.									
02...	1115	.40	.00	.46	.11	.07	520	8.0	7.5
JAN., 1973									
04...	1045	.80	.01	.13	.02	.01	445	7.9	.5
MAR.									
15...	1335	.06	.02	.39	.39	.02	490	7.7	9.0
MAY									
09...	1340	.13	.00	.05	.05	.00	405	8.0	16.0
JULY									
10...	1525	.26	.00	.41	.10	.08	480	7.8	26.5
AUG.									
23...	1500	.06	.01	1.2	.12	.10	500	7.9	19.5

DATE	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	COM-PLETE COLI-FORM (MPN)	FECAL COLI-FORM (EC BROTH) (MPN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	AIR TEMPER-ATURE (DEG C)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
AUG., 1971								
19...	6.4	75	8.6	4300	300	.0	26.5	--
OCT.								
29...	7.5	76	.0	15000	<300	.0	14.0	--
DEC.								
16...	12.0	94	.1	24000	24000	.0	4.0	0
MAR., 1972								
08...	14.6	101	.2	2400	930	.0	-6.0	0
APR.								
25...	11.4	101	1.9	750	40	.0	12.0	--
JUNE								
21...	6.4	71	2.6	9000	<3000	.0	12.0	--
AUG.								
24...	7.4	90	2.9	9300	2300	.0	26.0	--
NOV.								
02...	11.6	98	1.9	11000	9300	.0	20.0	--
JAN., 1973								
04...	12.4	87	2.0	110000	1500	.0	1.0	0
MAR.								
15...	10.4	91	2.7	460000	2100	.0	17.0	0
MAY								
09...	9.2	94	1.5	460000	90	.0	25.0	--
JULY								
10...	6.7	84	2.8	23000	9300	.0	29.0	--
AUG.								
23...	9.3	103	3.5	1100000	240000	.0	22.0	--

04175610 RIVER RAISIN AT MANCHESTER, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
19...	9.0	60	75	60	22	9.1	1.9	250	0	205	34	18
APR., 1972												
25...	12	650	120	80	15	6.9	1.9	224	0	184	55	18
NOV.												
02...	9.7	20	0	75	19	8.7	2.3	264	0	217	42	17
MAR., 1973												
15...	7.1	110	17	67	17	6.0	1.9	224	0	184	44	16
AUG.												
23...	13	20	19	73	19	6.2	2.0	270	0	221	29	16

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
19...	.6	.60	240	35	10	3	10	0	0	1	<.5
APR., 1972											
25...	.3	.40	260	78	15	4	--	--	--	--	--
NOV.											
02...	.2	.09	270	50	20	1	0	0	1	21	1.0
MAR., 1973											
15...	.3	.60	240	56	20	10	--	--	--	--	--
AUG.											
23...	.3	.20	260	40	30	6	10	0	0	0	<.5

04175630 RIVER RAISIN NEAR CLINTON, MICH.

LOCATION.--Lat 42°05'36", long 083°58'35", in SE¼ sec.29, T.4 S., R.4 E., Washtenaw County, at Allen Rd., 1.0 mi (1.6 km) north of Clinton and 96.4 mi (155 km) above mouth.
DRAINAGE AREA.--167 mi^2 (432 km^2).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971								
19...	0845	.22	.01	.49	.09	.07	500	8.3
OCT.								
29...	1000	.62	.02	.24	.07	.06	560	8.3
DEC.								
16...	1100	.12	.01	.17	.11	.08	560	7.9
MAR., 1972								
07...	1440	.00	.02	.28	.05	.01	490	7.7
APR.								
25...	1355	.06	.01	.08	.04	.02	490	8.2
JUNE								
21...	1345	.00	.01	.56	.10	.10	550	4.2
AUG.								
24...	1325	.06	.02	.25	.07	.05	495	8.3
NOV.								
02...	0925	.27	.00	.45	.13	.08	560	7.6
JAN., 1973								
04...	1145	1.0	.01	.17	.03	.02	450	8.0
MAR.								
15...	1240	.06	.00	.51	.20	.08	500	7.9
MAY								
09...	1405	.16	.01	.10	.02	.00	500	8.1
JULY								
11...	1500	.63	.00	.73	.10	.04	520	7.9

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
19...	20.0	8.3	93	7.1	46000	900	.0	23.5	--
OCT.									
29...	16.0	7.0	77	2.1	4300	400	.0	16.0	--
DEC.									
16...	3.5	11.6	88	.7	4300	2300	.0	4.0	0
MAR., 1972									
07...	.0	13.0	90	2.0	430	40	.0	-0.0	6
APR.									
25...	10.0	11.6	105	1.6	930	40	.0	9.5	--
JUNE									
21...	18.0	8.0	86	.6	4600	4000	.0	13.0	--
AUG.									
24...	24.0	8.2	99	1.6	2400	430	.0	28.0	--
NOV.									
02...	7.5	10.0	85	1.5	46000	9300	.0	13.5	--
JAN., 1973									
04...	.0	11.0	83	1.0	>240000	4600	.0	-0.0	1
MAR.									
15...	9.0	10.0	88	3.7	240000	9300	.0	16.0	0
MAY									
09...	10.0	9.0	100	.6	7000	<30	.0	20.0	--
JULY									
11...	20.0	8.0	86	4.1	>150000	1000	.0	25.0	--

04175630 RIVER RAISIN NEAR CLINTON, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
AUG., 1971 19...	8.4	30	32	70	21	8.7	2.0	266	0
APR., 1972 25...	11	440	70	80	16	7.1	1.9	218	6
NOV. 02...	10	20	8	76	22	8.4	2.5	272	0
MAR., 1973 15...	7.6	300	39	68	18	6.0	2.0	230	0

DATE	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
AUG., 1971 19...	218	40	16	.4	.20	260	42	15	15
APR., 1972 25...	189	50	17	.3	.40	270	77	10	4
NOV. 02...	223	45	17	.2	.20	280	56	15	1
MAR., 1973 15...	189	67	16	.2	.60	240	54	15	--

DATE	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
AUG., 1971 19...	0	0	1	0	<.5	3	0	50
APR., 1972 25...	--	--	--	--	--	--	--	--
NOV. 02...	0	0	0	2	1.0	1	1	20
MAR., 1973 15...	--	--	--	--	--	--	--	--

04175650 IRON CREEK NEAR CLINTON, MICH.

LOCATION--Lat 42°05'37", long 083°59'17", in SW¼ sec.29, T.4 S., R.4 E., Washtenaw County, at Bartlett Rd., 1.7 mi (2.7 km) north of Clinton, and 0.8 mi (1.3 km) upstream from River Raisin.

DRAINAGE AREA.--28.8 mi^2 (74.6 km^2).

PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).

REMARKS.-Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
AUG., 1971								
19...	0815	.41	.01	.48	.02	.01	480	8.2
OCT.								
29...	1030	.23	.01	.16	.02	.02	480	8.1
DEC.								
16...	1050	.09	.01	.24	.05	.03	590	7.9
MAR., 1972								
07...	1500	.06	.02	.08	.02	.02	525	8.0
APR.								
25...	1345	.05	.01	.08	.02	.02	500	8.3
JUNE								
21...	1315	.06	.01	.49	.06	.04	480	4.6
AUG.								
24...	1335	.03	.01	.27	.04	.03	560	8.4
NOV.								
02...	1005	.19	.01	.46	.10	.06	555	7.6
JAN., 1973								
04...	1130	1.0	.01	.22	.05	.04	410	7.9
MAR.								
15...	1305	.02	.03	.90	.05	.04	490	7.8
MAY								
09...	1355	.16	.01	.21	.02	.00	520	7.9
JULY								
11...	1515	.40	.00	.43	.07	.05	470	7.8

DATE	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	COM-PLETE COLI-FORM (MPN)	FECAL COLI-FORM (EC BROTH) (MPN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	AIR TEMPER-ATURE (DEG C)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
AUG., 1971									
19...	19.5	8.0	92	5.7	21000	4300	.0	21.0	--
OCT.									
29...	12.0	8.6	82	1.7	4300	2300	.0	15.0	--
DEC.									
16...	5.0	11.0	88	.6	9300	4300	.0	6.0	0
MAR., 1972									
07...	4.0	12.0	99	2.0	90	40	.0	11.0	0
APR.									
25...	9.0	11.0	107	1.0	430	150	.0	13.0	--
JUNE									
21...	16.5	8.3	86	.8	<3000	<3000	.0	13.5	--
AUG.									
24...	21.0	8.6	95	.6	4600	430	.0	20.0	--
NOV.									
02...	8.5	9.6	82	3.1	110000	4300	.0	10.0	--
JAN., 1973									
04...	.5	11.0	77	2.5	>240000	2100	.0	-0.0	0
MAR.									
15...	9.0	9.8	86	2.0	>240000	11000	.0	15.0	0
MAY									
09...	16.0	9.0	90	1.0	150000	30	.0	21.5	--
JULY									
11...	22.0	7.0	82	3.0	460000	1200	.0	25.5	--

04175650 IRON CREEK NEAR CLINTON, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971 19...	14	50	54	70	18	6.6	1.7	278	0	228	34	7.5
APR., 1972 25...	14	800	110	77	16	6.3	2.0	236	0	194	63	13
NOV. 02...	13	10	0	82	21	6.3	2.9	284	0	233	51	12
MAR., 1973 15...	8.2	60	11	67	17	5.4	2.9	220	0	180	49	12

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971 19...	.5	.02	250	22	5	4	0	0	0	0	.5
APR., 1972 25...	.3	.30	260	64	10	6	--	--	--	--	--
NOV. 02...	.2	.00	290	60	15	6	0	0	0	0	<.5
MAR., 1973 15...	.3	.00	240	50	15	25	--	--	--	--	--

04176350 SALINE RIVER AT BENTON, MICH.

LOCATION.--Lat 42°08'18", long 083°52'08", in NW¼ sec.17, T.4 S., R.5 E., Washtenaw County, at Feldkamp Rd., 0.7 mi (1.1 km) northwest of Benton, 5 mi (8 km) southwest of Saline, and 37.0 mi (59.5 km) upstream from River Raisin.
DRAINAGE AREA.--28.8 mi^2 (74.6 km^2).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971								
18...	1450	.05	.01	.49	.01	.00	740	7.4
OCT.								
29...	0905	.31	.02	.12	.02	.02	740	7.8
DEC.								
16...	1135	.59	.05	.14	.08	.05	1000	7.6
MAR., 1972								
07...	1400	.16	.02	.14	.02	.02	720	7.6
APR.								
25...	1425	.38	.02	.12	.04	.02	720	8.2
JUNE								
21...	1415	.70	.06	.56	.05	.05	900	8.2
AUG.								
24...	1240	.11	.02	.20	.06	.04	820	7.6
NOV.								
01...	1500	3.4	.01	.44	.11	.10	940	7.5
JAN., 1973								
04...	1230	4.2	.01	.54	.06	.05	540	7.7
MAR.								
15...	1200	.02	.02	.66	.21	.05	660	7.5
MAY								
09...	1430	.16	.00	.49	.02	.00	560	7.8
JULY								
11...	1430	1.2	.01	1.0	.08	.08	725	7.6

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
18...	26.0	9.2	116	4.2	46000	900	.0	31.0	--
OCT.									
29...	10.0	9.2	92	1.6	24000	<300	.0	13.0	--
DEC.									
16...	5.0	10.0	80	.6	1100	700	.0	4.0	0
MAR., 1972									
07...	.0	13.4	93	1.7	1500	200	.0	13.0	1
APR.									
25...	13.0	14.6	140	1.6	430	<30	.0	18.5	--
JUNE									
21...	15.5	8.8	88	.8	93000	15000	.1	14.5	--
AUG.									
24...	21.0	7.1	81	1.5	110000	21000	.0	20.0	--
NOV.									
01...	8.0	10.2	87	.3	9200	<300	.0	9.0	--
JAN., 1973									
04...	1.0	10.8	76	2.0	>240000	1500	.0	-9.0	0
MAR.									
15...	10.0	9.5	86	4.1	460000	7500	.0	10.0	0
MAY									
09...	18.0	8.8	96	3.5	460000	90	.0	20.5	--
JULY									
11...	21.5	7.0	80	3.1	1100000	11000	.0	24.0	--

04176350 SALINE RIVER AT BENTON, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
18...	15	30	39	110	26	7.7	1.5	294	0	241	140	18
APR., 1972												
25...	6.2	390	74	110	22	7.4	3.8	209	0	171	160	22
NOV.												
01...	10	20	9	160	30	8.3	3.4	288	0	236	230	32
MAR., 1973												
15...	5.5	170	70	97	20	5.4	4.2	206	0	169	140	20

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
18...	.3	.00	380	140	10	6	4	0	0	2	<.5
APR., 1972											
25...	.3	2.7	360	190	24	2	--	--	--	--	--
NOV.											
01...	.3	2.2	520	290	35	2	6	0	0	0	<.5
MAR., 1973											
15...	.3	1.6	320	160	5	30	--	--	--	--	--

04176365 SALINE RIVER ABOVE SALINE, MICH.

LOCATION.--Lat 42°10'16", long 083°49'32", in SW¼ sec.36, T.3 S., R.5 E., Washtenaw County, at Dell Rd., 2.5 mi (4.0 km) east of Saline, 33 mi (53 km) upstream from River Raisin.

DRAINAGE AREA.--46 mi^2 (119 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
AUG., 1971								
18...	1350	.00	.01	.54	.02	.01	700	7.2
OCT.								
28...	1345	.42	.01	.24	.04	.01	760	8.2
DEC.								
16...	1205	.51	.06	.34	.09	.06	1150	7.9
MAR., 1972								
07...	1315	.22	.04	.12	.02	.02	750	7.9
APR.								
25...	1445	.43	.01	.39	.03	.02	750	8.3
JUNE								
21...	1445	.63	.07	.65	.12	.12	850	7.5
AUG.								
24...	1225	.08	.02	.39	.05	.03	850	8.1
NOV.								
01...	1430	3.2	.02	.37	.08	.05	940	7.6
JAN., 1973								
04...	1250	3.6	.01	.24	.08	.07	480	7.8
MAR.								
15...	1130	.13	.03	.83	.12	.04	600	7.4
MAY								
09...	1450	1.9	.00	.20	.11	.00	520	7.8
JULY								
11...	1410	1.3	.01	.80	.10	.07	750	7.7
AUG.								
23...	1600	.06	.01	.66	.10	.07	815	8.0

DATE	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	COM-PLETE COLI-FORM (MPN)	FECAL COLI-FORM (EC BROTH) (MPN)	METHY-LENE BLUE ACTIVE SUR-STANCE (MG/L)	AIR TEMPER-ATURE (DEG C)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
AUG., 1971									
18...	23.0	9.5	113	2.5	46000	1500	.0	31.0	--
OCT.									
28...	16.0	7.0	72	2.3	24000	1500	.0	23.0	--
DEC.									
16...	5.0	10.4	83	.4	24000	24000	.0	4.0	0
MAR., 1972									
07...	.5	14.4	100	2.0	430	70	.0	11.0	4
APR.									
25...	10.0	12.4	113	1.6	390	<30	.0	11.0	--
JUNE									
21...	15.5	7.9	79	2.2	1100000	120000	.1	15.5	--
AUG.									
24...	21.5	9.1	103	1.5	9300	2300	.0	29.0	--
NOV.									
01...	7.5	10.5	89	1.0	110000	1500	.0	11.5	--
JAN., 1973									
04...	1.0	11.8	85	2.7	>240000	2400	.0	1.0	0
MAR.									
15...	9.0	9.2	81	3.4	460000	15000	.0	10.0	0
MAY									
09...	16.0	8.1	83	2.6	>2400000	90	.0	21.5	--
JULY									
11...	18.5	7.3	80	3.1	210000	21000	.0	25.0	--
AUG.									
23...	19.0	12.6	136	2.6	>2400000	>2400000	.0	19.0	--

04176365 SALINE RIVER ABOVE SALINE, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
18...	12	20	87	110	28	10	2.3	320	0	262	120	18
APR., 1972												
25...	10	320	70	110	23	8.3	3.7	215	0	176	160	24
NOV.												
01...	9.8	20	0	160	31	9.9	3.6	308	0	253	220	32
MAR., 1973												
15...	7.8	300	64	96	17	5.6	4.1	188	0	154	110	22
AUG.												
23...	12	10	0	130	29	7.6	3.8	350	0	287	130	20

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
18...	.4	.06	390	130	15	8	4	0	0	1	<.5
APR., 1972											
25...	.3	3.7	370	190	23	7	--	--	--	--	--
NOV.											
01...	.3	2.1	520	270	35	3	7	0	0	3	<.5
MAR., 1973											
15...	.7	4.1	310	160	35	50	--	--	--	--	--
AUG.											
23...	.3	.20	440	160	20	3	6	0	0	0	<.5

04176370 SALINE RIVER TRIBUTARY NEAR SALINE, MICH.

LOCATION.--Lat 42°10'34", long 083°49'17", in NW¼ sec.35, T.3 S., R.5 E., Washtenaw County, at Saline Waterworks Rd., 2.2 mi (3.5 km) northwest of Saline, and 0.4 mi (0.6 km) upstream from River Raisin.
DRAINAGE AREA.--13.2 mi² (34.2 km²).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
AUG., 1971								
18...	1300	.00	.02	.48	.01	.00	640	7.4
OCT.								
28...	1420	.62	.02	.22	.03	.03	680	8.2
DEC.								
16...	1225	.16	.01	.15	.06	.05	790	8.0
MAR., 1972								
07...	1330	.22	.03	.34	.02	.01	690	7.9
APR.								
25...	1500	.30	.01	.27	.05	.03	625	8.3
JUNE								
21...	1500	.13	.01	.34	.08	.06	780	8.0
AUG.								
24...	1210	.05	.02	.11	.04	.04	720	7.5
NOV.								
01...	1420	.08	.01	.76	.05	.05	770	7.6
JAN., 1973								
04...	1310	3.3	.01	.13	.06	.04	480	7.9
MAR.								
15...	1105	.02	.01	.18	.38	.05	525	7.6
MAY								
09...	1500	.06	.00	.12	.22	.00	545	8.0
JULY								
11...	1345	1.3	.01	.83	.10	.07	700	7.8

DATE	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	COM-PLETE COLI-FORM (MPN)	FECAL COLI-FORM (EC BROTH) (MPN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	AIR TEMPER-ATURE (DEG C)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
AUG., 1971									
18...	23.5	15.2	183	6.0	2100	400	.0	29.5	--
OCT.									
28...	17.0	5.2	55	1.6	9300	900	.0	23.0	--
DEC.									
16...	5.0	11.2	90	.9	4300	900	.0	4.0	0
MAR., 1972									
07...	3.0	14.2	107	2.3	430	150	.0	12.0	1
APR.									
25...	12.5	11.2	107	1.3	230	70	.0	13.0	--
JUNE									
21...	15.0	8.3	83	1.0	9000	4000	.0	13.0	--
AUG.									
24...	21.0	7.2	82	1.0	2400	930	.0	30.5	--
NOV.									
01...	7.5	10.2	86	1.4	7500	2300	.0	10.0	--
JAN., 1973									
04...	.5	11.5	81	2.4	>240000	4600	.0	.5	1
MAR.									
15...	9.0	9.2	81	3.9	110000	21000	.0	10.0	0
MAY									
09...	18.0	8.8	95	3.2	1100000	<30	.0	24.0	--
JULY									
11...	20.0	7.5	84	.9	460000	240000	.0	24.0	--

04176370 SALINE RIVER TRIBUTARY NEAR SALINE, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
18...	11	40	150	90	27	8.8	2.8	306	0	251	78	17
APR., 1972												
25...	9.3	220	67	94	22	8.8	3.9	210	0	172	110	28
NOV.												
01...	9.9	0	12	120	28	8.5	3.8	330	0	271	110	24
MAR., 1973												
15...	5.8	380	36	75	15	6.4	3.8	182	0	149	69	25

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
18...	.3	.20	340	88	5	6	7	0	0	0	<.5
APR., 1972											
25...	.3	2.1	320	150	22	7	--	--	--	--	--
NOV.											
01...	.3	.70	410	140	10	1	8	0	1	2	<.5
MAR., 1973											
15...	.3	1.6	250	100	30	25	--	--	--	--	--

04176399 KOCH-WARNER DRAIN AT SALINE, MICH.

LOCATION.--Lat 42°09'22", long 083°46'29", in SW¼ sec.6, T.4 S., R.6 E., Washtenaw County, at Saline-Milan Rd., 1.0 mi (1.6 km) south of Saline, and 0.4 mi (0.6 km) upstream from River Raisin.
DRAINAGE AREA.--12.1 mi² (31.3 km²).
PERIOD OF RECORD.--Chemical analyses: August 1971 to July 1973 (discontinued).
REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department.

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
AUG., 1971									
10...	1135	.18	.01	.41	.01	.00	660	7.3	18.0
OCT.									
20...	1305	.77	.03	.15	.07	.05	710	8.2	14.0
DEC.									
16...	1250	.17	.02	.10	.13	.04	910	7.9	6.0
MAR., 1972									
07...	1230	.08	.06	.20	.02	.02	2100	7.7	5.5
APR.									
25...	1525	.09	.01	.32	.05	.02	795	8.4	12.0
JUNE									
22...	0845	.08	.02	.09	.08	.07	790	6.6	11.0
AUG.									
24...	1100	.04	.02	.20	.05	.03	800	8.1	15.0
NOV.									
01...	1300	.05	.01	.80	.09	.06	790	7.8	8.0
JAN., 1973									
04...	1335	1.0	.01	.05	.06	.04	640	7.8	2.0
MAR.									
15...	1040	.02	.01	.12	.33	.04	675	7.6	9.0
MAY									
09...	1525	.02	.00	.24	.09	.00	720	8.0	17.5
JULY									
11...	1310	.80	.00	.73	.06	.06	760	7.8	15.5

DATE	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971								
10...	12.4	135	3.4	15000	1500	.0	28.5	--
OCT.								
20...	12.0	119	2.0	2300	900	.0	22.0	--
DEC.								
16...	11.6	95	.0	2100	300	.0	4.0	0
MAR., 1972								
07...	13.6	110	4.9	11000	4600	.0	13.0	0
APR.								
25...	15.0	143	2.8	400	<300	.0	15.0	--
JUNE								
22...	9.1	83	.0	4000	<3000	.0	8.0	--
AUG.								
24...	10.6	106	1.1	11000	2400	.0	31.0	--
NOV.								
01...	9.8	84	1.2	9300	<300	.0	10.5	--
JAN., 1973								
04...	11.5	85	1.9	9300	2100	.0	.0	1
MAR.								
15...	9.3	81	3.8	110000	11000	.0	10.5	0
MAY								
09...	11.8	127	3.3	75000	<30	.0	23.0	--
JULY								
11...	9.0	93	2.4	75000	43000	.0	25.5	--

04176399 KOCH-WARNER DRAIN AT SALINE, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG., 1971												
10...	12	50	60	100	26	7.2	2.1	306	0	251	99	22
APR., 1972												
25...	14	550	130	120	26	13	2.6	272	0	223	140	36
NOV.												
01...	14	0	0	130	26	9.8	2.9	336	0	276	130	26
MAR., 1973												
15...	8.4	170	83	100	12	13	3.4	220	0	180	93	30

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)
AUG., 1971											
10...	.2	.30	360	110	5	1	0	0	0	2	<.5
APR., 1972											
25...	.3	.60	410	180	20	5	--	--	--	--	--
NOV.											
01...	.2	.20	430	160	10	1	4	0	1	0	<.5
MAR., 1973											
15...	.2	1.0	300	120	30	45	--	--	--	--	--

04176418 SALINE RIVER ABOVE MILAN, MICH.

LOCATION.--Lat 42°05'05", long 83°41'45", in SE¼ sec.36, T.4 S., R.6 E., Washtenaw County, at Platt Rd. at Milan, 0.7 mi (1.1 km) above dam at Milan, and 16.2 mi (26.1 km) upstream from River Raisin.

DRAINAGE AREA.--112 mi² (290 km²), approximately.

PERIOD OF RECORD.--Chemical analyses: August 1971 to September 1973.

REMARKS.--Bimonthly analyses for nutrients, coliforms, and BOD furnished by Washtenaw County Health Department. Discharge estimates based on records at gaging station near Saline, adjusted for drainage area.

CHEMICAL ANALYSES, AUGUST 1971 TO SEPTEMBER 1973

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
AUG., 1971									
17...	1420	E9.1	1.4	.12	.04	1.2	.57	1020	7.6
OCT.									
20...	1040	E15	1.1	.02	.80	.70	.66	930	7.6
DEC.									
16...	1325	E39	.36	.05	.51	.72	.12	900	8.0
MAR., 1972									
07...	1145	E33	.27	.00	.96	.13	.13	825	7.8
APR.									
26...	0755	E90	.28	.03	.76	.10	.17	795	7.8
JUNE									
22...	0915	E33	.32	.09	.24	.50	.56	890	7.1
AUG.									
24...	1025	E28	.32	.04	.24	.51	.42	890	7.8
NOV.									
01...	1215	E47	.34	.04	.37	.25	.21	850	7.6
JAN., 1973									
04...	1430	E414	3.6	.01	.29	.14	.10	610	8.0
MAR.									
15...	1000	E453	.10	.03	.20	.25	.19	560	7.6
MAY									
09...	1650	E127	.13	.02	.61	.09	.03	730	7.8
JULY									
11...	1140	E59	1.7	.00	1.0	.15	.11	800	7.7
AUG.									
23...	1710	E26	.06	.03	.05	.23	.10	610	7.6

DATE	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	COMPLETE COLIFORM (MPN)	FECAL COLIFORM (EC BROTH) (MPN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1971									
17...	23.0	11.6	130	6.9	11000	60	.0	30.0	--
OCT.									
20...	16.0	2.5	26	2.0	2300	600	.0	19.0	--
DEC.									
16...	5.0	9.3	74	2.0	24000	2300	.0	6.0	0
MAR., 1972									
07...	.0	11.6	79	6.0	2300	930	.0	10.0	6
APR.									
26...	8.0	9.6	80	2.2	900	<300	.0	6.5	--
JUNE									
22...	10.5	6.2	144	1.6	4000	<3000	.1	18.0	--
AUG.									
24...	21.0	5.1	58	2.0	2100	430	.0	30.0	--
NOV.									
01...	7.5	8.3	70	1.7	15000	430	.0	10.0	--
JAN., 1973									
04...	1.0	11.2	81	4.1	110000	4600	.0	-5.0	8
MAR.									
15...	8.0	9.6	82	5.0	>240000	21000	.0	17.5	0
MAY									
09...	10.0	7.5	77	4.0	>2400000	11000	.0	23.0	--
JULY									
11...	21.5	6.0	58	2.0	23000	23000	.0	29.5	--
AUG.									
23...	17.0	6.0	60	1.7	7500000	460000	.0	29.5	--

04176418 SALINE RIVER ABOVE MILAN, MICH.--Continued

CHEMICAL ANALYSES, AUGUST 1971 TO JULY 1973--Continued

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
AUG., 1971 17...	12	80	44	92	22	98	7.0	285	0
APR., 1972 26...	12	570	130	120	24	18	3.9	241	0
NOV. 01...	11	30	9	140	27	27	4.9	302	0
MAR., 1973 15...	6.8	1200	140	73	16	9.3	4.2	178	0
AUG. 23...	11	220	4	120	26	40	4.9	324	0

DATE	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	HARD-NESS (CA+MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
AUG., 1971 17...	234	130	110	.7	1.8	320	86	20	10
APR., 1972 26...	198	150	36	.3	3.3	400	200	16	15
NOV. 01...	248	180	47	.4	2.5	460	210	15	3
MAR., 1973 15...	146	78	24	.3	1.5	250	100	25	100
AUG. 23...	266	130	56	.4	.70	400	140	25	15

DATE	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
AUG., 1971 17...	8	0	0	0	7.5	34	--	360
APR., 1972 26...	--	--	--	--	--	--	--	--
NOV. 01...	8	0	0	17	1.0	20	1	40
MAR., 1973 15...	--	--	--	--	--	--	--	--
AUG. 23...	9	0	0	3	<.5	33	1	60

04176500 RIVER RAISIN NEAR MONROE, MICH.
(International Hydrological Decade River Station)

LOCATION.--Lat 41°57'40", long 83°31'35", Monroe County, at bridge on Ida Maybee Road, 0.8 mi (1.3 km) upstream from gaging station, 4.2 mi (6.8 km) downstream from Saline River and 8.3 mi (13 km) west of Monroe.
DRAINAGE AREA.--1,042 mi^2 (2,699 km^2), at gaging station.
PERIOD OF RECORD.--Water temperatures: March 1966 to September 1972 (discontinued).
Sediment records: March 1966 to September 1972 (discontinued).
EXTREMES.--1971-72:
Sediment concentrations: Maximum daily, 661 mg/l Sept. 20; minimum daily, 2 mg/l on several days in December.
Sediment discharge: Maximum daily, 5,610 tons (5,090 tonnes) Sept. 19; minimum daily, 1.3 tons (1.2 tonnes) Dec. 28, 29.
Period of record:
Water temperatures (1966-67, 1969-71): Maximum, 31.0°C Aug. 13, 1970, June 29, 30, July 7, 1971; minimum, freezing point on several days in 1967, 1970, and 1971.
Sediment concentrations: Maximum daily, 1,430 mg/l Dec. 22, 1967; minimum daily, 1 mg/l on several days in 1969 and 1970.
Sediment discharge: Maximum daily, 28,000 tons (25,400 tonnes), Dec. 22, 1967; minimum daily, 0.29 ton (0.26 tonne) Aug. 31, 1971.
REMARKS.--Flow affected by ice Jan. 10 to Feb. 20, Feb. 23, 27, Mar. 8-11.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972
(ONCE-DAILY MEASUREMENT BETWEEN 1500 and 1800)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	16.0	4.0	3.0	---	5.0	---	18.0	20.0	---	---	24.0
2	24.0	15.0	3.0	3.0	---	3.0	6.0	20.0	---	---	31.0	25.0
3	25.0	---	3.0	3.0	---	2.0	7.0	20.0	22.0	23.0	30.0	---
4	23.0	---	---	2.0	---	1.0	7.0	15.0	---	24.0	---	---
5	22.0	11.0	---	---	0.0	---	8.0	16.0	22.0	23.0	---	20.0
6	21.0	10.0	4.0	---	---	2.0	7.0	15.0	22.0	22.0	23.0	21.0
7	20.0	8.0	4.0	2.0	0.0	3.0	4.0	14.0	23.0	---	---	22.0
8	18.0	7.0	3.0	3.0	---	---	---	13.0	24.0	24.0	20.0	23.0
9	16.0	6.0	5.0	4.0	0.0	3.0	7.0	---	23.0	25.0	22.0	---
10	---	---	---	---	---	---	9.0	14.0	21.0	---	---	---
11	14.0	7.0	7.0	3.0	1.0	4.0	10.0	16.0	23.0	26.0	---	---
12	15.0	---	---	---	---	---	11.0	17.0	22.0	28.0	21.0	25.0
13	16.0	9.0	5.0	---	---	4.0	14.0	19.0	23.0	---	---	24.0
14	15.0	---	7.0	---	3.0	3.0	12.0	18.0	24.0	---	---	22.0
15	16.0	11.0	---	---	2.0	---	13.0	20.0	23.0	---	24.0	21.0
16	17.0	11.0	---	---	---	2.0	---	17.0	22.0	28.0	25.0	22.0
17	---	10.0	---	---	0.0	3.0	12.0	18.0	22.0	31.0	24.0	23.0
18	18.0	11.0	---	3.0	---	2.0	14.0	19.0	---	32.0	---	---
19	17.0	10.0	---	---	1.0	2.0	---	20.0	24.0	---	26.0	21.0
20	19.0	9.0	4.0	2.0	---	2.0	12.0	---	24.0	---	---	20.0
21	---	7.0	---	---	0.0	3.0	---	21.0	21.0	23.0	25.0	22.0
22	18.0	---	---	---	1.0	2.0	10.0	---	20.0	24.0	26.0	21.0
23	17.0	4.0	4.0	1.0	1.0	3.0	11.0	---	18.0	25.0	27.0	---
24	17.0	3.0	---	1.0	1.0	4.0	10.0	25.0	19.0	23.0	26.0	21.0
25	17.0	4.0	5.0	0.0	---	5.0	11.0	25.0	18.0	22.0	---	20.0
26	---	5.0	5.0	---	---	---	12.0	24.0	19.0	21.0	25.0	18.0
27	---	5.0	---	1.0	---	7.0	13.0	23.0	---	22.0	---	19.0
28	20.0	5.0	3.0	2.0	3.0	6.0	14.0	24.0	22.0	---	23.0	---
29	18.0	4.0	3.0	---	4.0	5.0	14.0	23.0	23.0	24.0	---	16.0
30	19.0	---	2.0	---	---	7.0	---	22.0	---	26.0	---	14.0
31	---	---	3.0	0.0	---	---	---	21.0	---	---	25.0	---
MONTH	---	---	---	---	---	---	10.5	19.0	22.0	---	---	---
YEAR	MAX	32.0	MIN	0.0	MEAN	14.0						

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	98	17	4.5	121	20	6.5	188	10	5.1
2	107	19	5.5	124	20	6.7	192	10	5.2
3	96	20	5.2	104	23	6.5	192	9	4.7
4	81	21	4.6	97	24	6.3	164	9	4.0
5	73	17	3.4	111	18	5.4	154	8	3.3
6	73	25	4.9	115	25	7.8	174	8	3.8
7	68	18	3.3	102	27	7.4	203	8	4.4
8	68	13	2.4	97	20	5.2	251	6	4.1
9	74	15	3.0	114	14	4.3	283	5	3.8
10	77	15	3.1	120	10	3.2	295	6	4.8
11	78	12	2.5	107	12	3.5	342	7	6.5
12	77	11	2.3	100	14	3.8	395	6	6.4
13	80	21	4.5	97	15	3.9	415	8	9.0
14	95	15	3.8	114	18	5.5	400	9	9.7
15	93	13	3.3	116	22	6.9	434	9	11
16	82	13	2.9	112	19	5.7	438	7	8.3
17	76	13	2.7	118	18	5.7	452	4	4.9
18	74	17	3.4	104	16	4.5	430	3	3.5
19	70	11	2.1	104	14	3.9	430	3	3.5
20	69	10	1.9	103	12	3.3	405	2	2.2
21	78	10	2.1	121	12	3.9	376	3	3.0
22	81	15	3.3	134	12	4.3	339	3	2.7
23	90	15	3.6	134	10	3.6	310	3	2.5
24	105	14	4.0	147	10	4.0	297	2	1.6
25	119	17	5.5	147	11	4.4	270	3	2.2
26	126	14	4.8	131	12	4.2	261	2	1.4
27	139	16	6.0	125	12	4.1	253	2	1.4
28	144	15	5.8	117	11	3.5	243	2	1.3
29	142	16	6.1	141	11	4.2	235	2	1.3
30	130	20	7.0	174	10	4.7	394	32	42
31	119	20	6.4	--	--	--	785	78	165
TOTAL	2882	--	123.9	3551	--	146.9	10000	--	332.6

04176500 RIVER RAISIN NEAR MONROE, MICH.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972--Continued

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	811	54	118	280	7	5.3	242	19	12
2	871	34	80	270	7	5.1	493	67	89
3	831	23	52	250	4	2.7	657	73	129
4	746	20	40	250	5	3.4	747	92	186
5	618	13	22	240	5	3.2	679	28	51
6	612	10	17	230	7	4.3	640	27	50
7	566	10	15	230	8	5.0	437	10	12
8	490	9	12	220	9	5.3	370	5	5.0
9	440	8	9.5	220	10	5.9	330	4	3.6
10	400	8	8.6	220	8	4.8	300	4	3.2
11	380	8	8.2	220	4	2.4	290	4	3.1
12	360	7	6.8	230	3	1.9	280	4	3.0
13	340	6	5.5	230	4	2.5	485	80	138
14	320	7	6.0	230	5	3.1	1440	565	2200
15	300	8	6.5	240	3	1.9	1740	420	1970
16	300	8	6.5	250	4	2.7	2390	170	1100
17	300	9	7.3	270	4	2.9	2570	73	507
18	310	8	6.7	280	6	4.5	2280	50	308
19	320	9	7.8	290	10	7.8	2020	40	218
20	330	10	8.9	300	15	12	1700	36	165
21	350	10	9.5	294	15	12	1340	34	123
22	380	10	10	259	10	7.0	1340	34	123
23	400	8	8.6	250	13	8.8	1370	37	137
24	440	7	8.3	233	12	7.5	1370	40	148
25	460	5	6.2	225	15	9.1	1340	37	134
26	460	4	5.0	218	15	8.8	1200	32	104
27	450	4	4.9	210	51	29	970	32	84
28	400	4	4.3	195	23	12	852	33	76
29	350	4	3.8	201	15	8.1	781	22	46
30	320	4	3.5	--	--	--	753	15	30
31	300	7	5.7	--	--	--	758	15	31
TOTAL	13963	--	514.1	7035	--	189.0	32172	--	8188.9

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	769	10	21	825	23	56	326	36	32
2	737	13	26	1350	104	379	361	32	31
3	680	12	22	1510	113	461	376	25	25
4	668	12	22	1570	98	415	349	30	28
5	707	12	23	1460	79	311	300	15	12
6	729	13	26	1230	62	206	307	11	9.1
7	718	13	25	1020	49	135	283	12	9.2
8	650	12	21	1000	39	105	262	10	7.1
9	611	14	23	1140	31	95	239	28	18
10	569	18	28	1110	25	75	217	55	32
11	556	15	23	1030	20	56	199	53	28
12	535	16	23	889	20	48	187	20	10
13	529	15	21	783	12	25	186	18	9.0
14	512	16	22	718	13	25	184	18	8.9
15	711	105	235	861	48	112	208	37	21
16	1250	161	543	905	37	90	209	14	7.9
17	2410	280	1820	945	40	102	246	25	17
18	2320	237	1480	954	42	108	305	36	30
19	2430	185	1210	825	20	45	262	31	22
20	2490	144	968	718	40	78	244	28	18
21	2340	96	607	630	49	83	519	51	77
22	2530	143	977	562	46	70	549	73	108
23	2570	136	944	549	44	65	485	56	73
24	2260	64	391	479	40	52	404	40	44
25	1940	17	89	433	37	43	307	42	35
26	1470	16	64	396	33	35	256	49	34
27	1100	30	89	350	27	26	235	38	24
28	870	13	31	295	29	23	229	30	19
29	765	10	21	266	39	28	222	32	19
30	698	10	19	263	13	9.2	210	30	17
31	--	--	--	301	12	9.8	--	--	--
TOTAL	37140	--	9814	25367	--	3371.0	8674	--	825.2

04176500 RIVER RAISIN NEAR MONROE, MICH.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972--Continued

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	187	29	15	110	13	3.9	160	20	8.6
2	200	27	15	110	13	3.9	160	20	8.6
3	235	22	14	110	30	8.9	160	34	15
4	201	12	6.5	110	35	10	150	50	20
5	172	10	4.6	110	36	11	150	48	19
6	155	12	5.0	110	36	11	150	47	19
7	142	13	5.0	110	33	9.8	150	48	19
8	135	32	12	120	27	8.7	140	48	18
9	131	23	8.1	140	35	13	140	46	17
10	127	40	14	140	43	16	140	45	17
11	123	44	15	140	37	14	140	43	16
12	126	47	16	130	32	11	140	41	15
13	128	49	17	130	32	11	360	107	151
14	168	48	22	120	41	13	717	152	294
15	171	48	22	120	38	12	429	58	67
16	179	46	22	130	25	8.8	436	47	55
17	181	20	9.8	130	36	13	431	48	56
18	181	17	8.3	140	50	19	2570	352	3060
19	246	17	11	250	41	33	3580	580	5610
20	204	17	9.4	384	67	69	2860	661	5100
21	189	16	8.2	318	60	52	2250	340	2070
22	158	45	19	426	54	62	1720	65	302
23	140	38	14	346	51	48	1110	17	51
24	130	23	8.1	246	50	33	813	37	81
25	130	19	6.7	319	45	39	630	32	55
26	120	17	5.5	263	37	26	713	106	225
27	120	20	6.5	200	38	21	1020	232	639
28	120	32	10	190	35	18	885	161	385
29	120	25	8.1	180	25	12	796	88	189
30	120	15	4.9	170	21	9.6	893	38	92
31	120	13	4.2	170	22	10	--	--	--
TOTAL	4859	--	346.9	5672	--	630.6	24001	--	18674.2

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 175316
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 43157.3

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

						PARTICLE SIZE										
						PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED										
DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00
MAR. 14, 1972	1630	5.0	1700	708	3250	51	63	70	76	86	95	100				
APR. 17......	1530	12.0	2430	295	1220	59	73	81	89	95	98	100				
SEPT. 20.....	1630	20.0	2600	728	5110	54	73	75	82	89	96	100				

04184500 BEAN CREEK AT POWERS, OHIO

LOCATION.--Lat 41°40'39", long 84°13'56", in NE¼ sec.24, T.9 S., R.1 E., Fulton County, at gaging station on right bank at downstream side of bridge on U.S. Highway 20, 1 mi (2 km) east of Powers, 2.2 mi (3.5 km) upstream from Iron Creek, 3 mi (5 km) downstream from Silver Creek, and 5.2 mi (8.4 km) east of Fayette.

DRAINAGE AREA.--206 mi^2 (534 km^2).

PERIOD OF RECORD.--Chemical analyses: October 1969 to July 1973 (discontinued).

REMARKS.--Samples collected monthly as part of the Environmental Protection Agency national network. Data prefaced by the letter "E" are estimates based on field analyses.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972.

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)
OCT.									
04...	1100	12	--	--	274	--	30	.10	.02
NOV.									
22...	1030	23	--	--	--	--	--	.00	--
DEC.									
01...	1550	25	--	--	--	--	--	--	--
13...	1000	80	--	--	215	--	28	3.5	.12
JAN.									
19...	1440	94	--	--	--	140	31	2.5	--
FEB.									
16...	1000	74	--	--	--	--	E30	1.8	--
MAR.									
08...	1345	100	--	--	--	100	20	1.9	--
20...	1050	150	--	--	154	--	18	1.8	3.7
APR.									
26...	1200	289	--	--	--	--	E30	2.8	--
MAY									
03...	1335	465	--	--	--	76	16	2.9	--
JUNE									
14...	0930	40	--	--	259	--	19	.80	.09
JULY									
17...	1110	.60	--	--	--	--	E40	2.7	--
AUG.									
01...	1000	20	286	16	261	73	24	.60	--
21...	1150	38	--	--	--	--	E40	.70	--

DATE	ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED PHOSPHORUS (P) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER DAY)	TOTAL RESIDUE (MG/L)	TOTAL NONFILTRABLE RESIDUE (MG/L)	HARDNESS (CA+MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.										
04...	.12	.14	.08	420	--	426	6	320	694	7.8
NOV.										
22...	--	.12	.10	--	--	--	--	410	695	7.9
DEC.										
01...	--	--	--	--	--	--	--	--	608	--
13...	.71	.40	.32	474	102	510	36	376	698	7.9
JAN.										
19...	--	--	--	--	--	--	--	440	821	7.7
FEB.										
16...	--	.20	.14	--	--	--	--	E440	629	7.5
MAR.										
08...	--	--	--	--	--	--	--	280	561	8.2
20...	1.3	.20	.08	374	151	436	62	260	527	7.6
APR.										
26...	--	.19	.10	--	--	--	--	E380	568	7.5
MAY										
03...	--	--	--	--	--	--	--	160	521	7.2
JUNE										
14...	.63	.11	.07	438	47.3	458	20	360	626	8.0
JULY										
17...	--	.17	--	--	--	--	--	E340	688	7.3
AUG.										
01...	--	.19	--	416	22.5	--	--	330	625	8.7
21...	--	.22	--	--	--	--	--	E340	650	7.8

04184500 BEAN CREEK AT POWERS, OHIO --Continued

CHEMICAL ANALYSIS, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	IMME-DIATE COLI-FORM (COL. PER 100 ML)	PHENOLS (UG/L)	AIR TEMPER-ATURE (DEG C)	OIL-GREASE (SEVER-ITY)	FLOAT-ING OR SOLID ICE COVER (SEVER-ITY)
OCT.										
04...	18.0	3	7.2	77	1.8	7000	12	21.0	0	--
NOV.										
22...	.5	3	12.6	90	3.0	9000	1	-3.0	0	0
DEC.										
01...	1.5	--	--	--	--	--	--	--	--	--
13...	9.0	1	12.6	110	4.2	10000	10	-1.0	0	1
JAN.										
19...	2.5	--	--	--	--	--	--	--	0	--
FEB.										
16...	-5.0	10	11.2	80	3.8	900	24	-2.5	0	4
MAR.										
08...	.0	--	--	--	--	--	--	--	--	--
20...	3.5	30	12.8	97	4.8	7000	11	4.0	0	0
APR.										
26...	9.5	15	10.4	93	3.3	7000	14	12.0	0	--
MAY										
03...	15.0	--	--	--	--	--	--	--	--	--
JUNE										
14...	19.0	5	8.0	89	1.5	8000	1	27.5	0	--
JULY										
17...	21.0	15	8.2	93	1.1	8000	13	31.0	0	--
AUG.										
01...	20.5	--	--	--	--	--	--	--	--	--
21...	20.5	0	8.6	96	2.2	20000	6	22.0	0	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	TOTAL FLUO-RIDE (F) (MG/L)	TOTAL NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)
OCT.											
02...	1055	100	--	--	246	--	20	--	1.0	--	.05
17...	1200	42	--	--	--	--	--	--	--	--	--
NOV.											
07...	0940	160	--	--	--	--	--	--	2.4	--	--
DEC.											
12...	1315	160	--	--	--	--	--	--	--	--	--
18...	1005	90	--	--	230	--	22	--	2.6	--	.02
FEB.											
05...	0930	300	--	--	--	--	E17	--	2.9	--	--
06...	1325	151	--	--	--	70	17	--	--	--	--
MAR.											
16...	1345	954	--	--	180	--	18	--	1.0	--	.02
APR.											
04...	1145	360	--	--	--	--	--	--	--	--	--
23...	0935	800	--	--	--	--	E20	--	2.4	--	--
MAY											
31...	1035	1010	--	--	--	--	--	--	--	--	--
JUNE											
08...	1045	640	--	--	210	--	16	--	1.3	--	.35
JULY											
24...	0930	40	--	--	--	64	22	--	--	.80	--
SEP.											
18...	1215	17	330	0	271	73	26	.3	.69	--	--

04184500 BEAN CREEK AT POWERS OHIO --Continued

CHEMICAL ANALYSIS, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED PHOSPHORUS (P) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER DAY)	TOTAL RESIDUE (MG/L)	TOTAL NONFILTRABLE RESIDUE (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.										
02...	1.6	.11	.03	462	125	512	50	360	661	7.7
17...	--	--	--	--	--	--	--	--	686	--
NOV.										
07...	--	.40	--	--	--	--	--	--	606	7.8
DEC.										
12...	--	--	--	--	--	--	--	--	--	--
18...	.61	.06	.02	410	99.6	454	44	350	652	7.7
FEB.										
05...	--	.08	--	--	--	--	--	E280	532	7.9
06...	--	--	--	--	--	--	--	290	550	8.2
MAR.										
16...	1.3	.16	.04	296	762	428	132	260	490	7.5
APR.										
04...	--	--	--	--	--	--	--	--	532	--
23...	--	.23	--	--	--	--	--	E190	438	7.5
MAY										
31...	--	--	--	--	--	--	--	--	433	--
JUNE										
08...	1.5	.36	.25	327	572	410	83	280	516	7.7
JULY										
24...	--	--	--	--	--	--	--	380	651	7.9
SEP.										
10...	--	.13	--	--	--	475	--	--	780	7.9

DATE	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	PHENOLS (UG/L)	AIR TEMPERATURE (DEG C)	OIL-GREASE (SEVERITY)	FLOATING OR SOLID ICE COVER (SEVERITY)
OCT.										
02...	11.5	10	9.6	90	1.3	--	13	18.5	0	--
17...	8.5	--	--	--	--	--	--	--	--	--
NOV.										
07...	8.0	5	10.6	91	2.6	--	8	7.0	0	0
DEC.										
12...	.0	--	--	--	--	--	--	--	--	--
18...	.0	3	12.4	86	2.0	10000	6	-10.0	0	4
FEB.										
05...	2.5	10	12.0	97	3.6	8000	4	.0	0	0
06...	3.0	--	--	--	--	--	--	--	--	--
MAR.										
16...	10.0	35	10.2	92	2.3	1600	6	9.5	0	0
APR.										
04...	6.5	--	--	--	--	--	--	--	--	--
23...	14.0	95	9.0	88	5.6	--	8	15.0	0	--
MAY										
31...	14.0	--	--	--	--	--	--	--	--	--
JUNE										
08...	18.5	20	7.7	85	2.6	6300	6	25.0	0	--
JULY										
24...	21.5	--	--	--	--	--	--	--	--	--
SEP.										
10...	13.0	--	--	--	--	--	--	--	--	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE

Measurements of water temperatures are made at stream gaging stations in Michigan during periodic inspections of the gaging stations. The results of these water temperature measurements are tabulated below along with the water discharge, air temperature and, at selected sites, the specific conductance. Measurements are not included for those sites where continuous or daily records of temperature are available.

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
STREAMS TRIBUTARY TO LAKE SUPERIOR					
04032000 PRESQUE ISLE RIVER NEAR TULA, MICH. (LAT 46°32'49", LONG 89°46'38")					
WATER YEAR 1972					
OCT. 19, 1971	1250	118	11.0	19.0	--
DEC. 08	1000	128	0.5	1.0	--
JAN. 19, 1972	1400	93	0.0	-15.0	--
MAR. 08	1000	98	0.0	--	--
JUNE 01	1010	387	15.5	20.0	--
JULY 12	1025	130	22.5	22.0	--
AUG. 18	0830	2,640	18.5	18.0	--
WATER YEAR 1973					
OCT. 03, 1972	1430	450	10.5	16.5	--
NOV. 09	1135	1,310	3.0	3.0	--
DEC. 19	1430	163	0.0	--	--
FEB. 07, 1973	1710	352	4.0	17.0	--
MAY 10	--	1,650	--	13.0	--
JUNE 20	1100	227	18.0	17.0	--
JULY 25	0930	85	20.0	23.0	--
AUG. 21	1745	181	19.0	21.0	--
04033000 MIDDLE BRANCH ONTONAGON RIVER NEAR PAULDING, MICH. (LAT 46°21'25", LONG 89°04'38")					
WATER YEAR 1972					
OCT. 08, 1971	1130	163	10.0	11.5	--
DEC. 07	1220	126	0.5	1.0	--
JAN. 18, 1972	1230	101	0.0	-1.0	--
MAY 30	1220	333	12.0	9.0	--
JULY 12	1040	116	18.0	20.0	--
AUG. 08	1520	163	15.0	--	--
AUG. 17	1145	599	17.5	26.0	--
WATER YEAR 1973					
OCT. 05, 1972	--	290	--	--	--
NOV. 08	1300	436	3.5	.5	--
DEC. 18	1230	156	0.0	-5.0	--
FEB. 05, 1973	1330	121	0.0	-5.0	--
APR. 11	1130	247	1.0	3.5	--
MAY 08	1240	664	8.5	--	--
JUNE 19	1250	147	19.0	29.5	--
JULY 23	1300	118	19.0	20.0	--
AUG. 20	1520	157	18.5	20.0	--
04034500 MIDDLE BRANCH ONTONAGON RIVER NEAR TROUT CREEK, MICH. (LAT 46°28'40", LONG 89°05'25")					
WATER YEAR 1972					
DEC. 07, 1971	1340	48	1.5	1.0	--
MAR. 06, 1972	1550	46	0.0	--	--
MAY 30	1620	55	14.0	12.0	--
JULY 12	1500	56	17.5	23.5	--
WATER YEAR 1973					
OCT. 05, 1972	0940	47	10.5	10.5	--
DEC. 19	1415	49	0.0	--	--
APR. 11, 1973	1430	47	1.5	4.0	--
MAY 08	1755	48	9.0	--	--
JULY 23	1450	56	19.0	26.5	--
04035000 EAST BRANCH ONTONAGON RIVER NEAR MASS, MICH. (LAT 46°41'24", LONG 89°04'24")					
WATER YEAR 1972					
OCT. 07, 1971	1530	198	12.0	14.5	--
DEC. 09	1030	185	0.0	1.0	--
JAN. 19, 1972	1000	138	0.0	-10.0	--
MAR. 07	1400	131	0.0	--	--
MAY 31	1230	395	12.0	17.0	--
JULY 13	1250	200	18.0	25.0	--
AUG. 17	0830	1,220	18.0	20.0	--
STREAMS TRIBUTARY TO LAKE SUPERIOR.--Continued					
04035000 EAST BRANCH ONTONAGON RIVER NEAR MASS, MICH.--Continued					
WATER YEAR 1973					
OCT. 04, 1972	1355	394	10.5	16.0	--
DEC. 19	0930	187	0.0	-2.0	--
FEB. 06, 1973	1100	170	0.0	-1.0	--
APR. 12	1215	259	1.5	1.0	--
MAY 09	1345	896	10.0	15.0	--
JUNE 19	1400	260	17.5	26.5	--
JULY 26	0900	133	20.5	24.0	--
AUG. 20	1115	173	15.5	21.0	--
04035500 MIDDLE BRANCH ONTONAGON RIVER NEAR ROCKLAND, MICH. (LAT 46°41'57", LONG 89°09'36")					
WATER YEAR 1972					
OCT. 18, 1971	1340	281	12.0	22.5	--
DEC. 12	1615	327	0.5	1.5	--
JAN. 18, 1972	1600	233	0.0	.5	--
MAR. 07	1000	233	0.0	--	--
MAY 31	1510	563	15.0	19.0	--
JULY 14	1000	267	17.0	19.5	--
AUG. 16	1800	8,360	18.0	28.0	--
WATER YEAR 1973					
OCT. 04, 1972	--	1,430	--	--	--
NOV. 08	1230	2,370	4.5	2.5	--
DEC. 18	1445	396	0.0	-4.5	--
FEB. 06, 1973	1300	272	0.0	-4.0	--
APR. 13	0830	456	1.0	-3.5	--
MAY 02	--	3,540	--	.5	--
JUNE 19	1210	430	17.5	25.0	--
JULY 21	1300	278	17.0	21.5	--
04036000 WEST BRANCH ONTONAGON RIVER NEAR BERGLAND, MICH. (LAT 46°35'15", LONG 89°32'30")					
WATER YEAR 1972					
OCT. 19, 1971	1100	150	13.0	18.0	--
MAY 31, 1972	1815	152	17.0	19.0	--
JULY 12	1630	936	24.5	21.0	--
AUG. 17	1440	1,020	18.5	29.5	--
WATER YEAR 1973					
OCT. 03, 1972	--	162	--	16.5	--
NOV. 09	1130	711	3.5	1.0	--
FEB. 06, 1973	1600	239	0.5	-5.0	--
APR. 13	0955	236	3.0	-2.0	--
JUNE 19	--	26	--	29.5	--
JULY 24	1315	13	19.5	24.0	--
AUG. 21	1600	123	20.5	22.0	--
04037500 CISCO BRANCH ONTONAGON RIVER AT CISCO LAKE OUTLET, MICH. (LAT 46°15'12", LONG 89°27'05")					
WATER YEAR 1972					
NOV. 20, 1971	1100	138	11.0	10.0	--
DEC. 09	1100	29	1.0	-3.0	--
MAR. 09, 1972	1350	58	1.0	--	--
APR. 18	1630	80	1.0	2.0	--
JUNE 02	1200	.22	20.5	21.0	--
JULY 10	1145	.22	21.5	24.0	--
AUG. 18	0930	203	22.0	16.0	--
WATER YEAR 1973					
OCT. 02, 1972	1230	125	10.0	11.0	--
DEC. 20	1200	44	0.5	-5.5	--
MAR. 12, 1973	1430	106	0.5	5.0	--
MAY 11	1115	197	10.0	13.5	--
JUNE 21	1200	25	18.0	17.0	--
JULY 26	1130	.71	19.5	20.0	--
AUG. 22	1440	24	19.0	14.5	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE SUPERIOR.--Continued

04040000 ONTONAGON RIVER NEAR ROCKLAND, MICH.
(LAT 46°43'15", LONG 89°12'25")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 07, 1971	1100	704	10.5	10.0	--
DEC. 08	0930	1,210	1.0	.0	--
APR. 20, 1972	1000	8,160	1.0	11.0	--
MAY 31	1150	1,490	16.0	19.0	--
JULY 13	1315	789	21.0	25.0	--
WATER YEAR 1973					
OCT. 04, 1972	1215	4,610	11.5	18.0	--
APR. 12, 1973	0915	1,480	2.0	.0	--
MAY 09	1140	6,220	9.5	15.0	--
JUNE 20	0815	723	18.0	16.0	--
AUG. 20	2015	973	20.5	21.0	--

04040500 STURGEON RIVER NEAR SIDNAW, MICH.
(LAT 46°35'03", LONG 88°34'33")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 26, 1971	1615	87	12.5	19.0	--
DEC. 13	1130	199	0.0	-12.0	--
DEC. 27	1200	93	0.0	-7.0	--
JAN. 24, 1972	1300	60	0.0	-5.0	--
FEB. 09	1230	48	0.0	-7.0	--
FEB. 24	1130	33	0.0	-7.0	--
MAR. 24	1000	149	0.0	--	--
APR. 26	1200	605	0.5	3.0	--
MAY 01	1430	2,290	2.0	5.0	--
JUNE 23	--	344	--	9.0	--
JULY 25	1345	220	19.5	--	--
AUG. 28	1200	291	18.0	22.5	--
SEP. 25	1245	250	13.0	10.5	--
WATER YEAR 1973					
NOV. 17, 1972	1200	240	1.5	-2.5	--
DEC. 22	1200	94	0.0	-5.0	--
JAN. 02, 1973	1330	122	0.0	-6.0	--
JAN. 25	1125	122	0.0	3.0	--
FEB. 13	1330	79	0.0	--	--
FEB. 26	1230	67	0.0	-6.0	--
MAR. 15	0900	1,450	0.0	.5	--
APR. 24	1510	605	7.0	9.0	--
MAY 24	1215	215	14.0	7.0	--
JUNE 25	1135	72	19.0	23.0	--
JULY 25	1300	33	23.5	27.0	--
AUG. 24	0945	109	17.0	13.5	--
SEP. 25	1115	97	11.0	14.0	--

04041500 STURGEON RIVER NEAR ALSTON, MICH.
(LAT 46°43'35", LONG 88°39'43")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 28, 1971	1030	679	12.0	7.0	--
JAN. 25, 1972	1555	14	2.0	-18.0	--
MAR. 22	1520	296	1.0	18.0	--
JUNE 21	--	626	--	19.5	--
JULY 31	--	623	--	25.5	--
WATER YEAR 1973					
OCT. 10, 1972	1200	737	10.0	14.5	--
JAN. 03, 1973	1345	664	0.5	-1.0	--
FEB. 13	1600	14	1.0	--	--
MAR. 13	1345	2,120	1.0	12.0	--
APR. 25	1355	657	9.0	8.5	--
MAY 23	1230	655	7.0	13.0	--
AUG. 08	1320	226	20.5	20.0	--
SEP. 13	1440	200	16.5	20.5	--

04042500 OTTER RIVER NEAR ELO, MICH.
(LAT 46°50'09", LONG 88°38'12")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 27, 1971	1600	116	12.0	13.0	--
DEC. 13	1445	158	0.0	-12.0	--
JAN. 26, 1972	1030	92	0.0	-19.0	--
MAR. 22	1720	170	0.0	--	--
MAY 01	--	1,930	--	--	--
JUNE 222	1330	187	12.0	16.5	--
AUG. 01	1200	109	19.0	19.5	--
SEP. 13	1700	142	13.0	15.0	--

--DISCONTINUED--

04043000 STURGEON RIVER NEAR ARNHEIM, MICH.
(LAT 46°55'42", LONG 88°33'23")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 27, 1971	1340	388	13.5	14.0	--
DEC. 13	1630	571	0.0	-12.0	--
JAN. 26, 1972	1215	329	0.5	-20.0	--
MAR. 23	1500	509	0.5	-2.0	--
JUNE 22	1030	863	14.5	16.5	--
AUG. 01	--	565	--	17.5	--
SEP. 14	1215	562	16.5	15.0	--
WATER YEAR 1973					
OCT. 10, 1972	1445	1,070	10.5	14.5	--
NOV. 16	1400	1,040	1.5	-1.0	--
JAN. 03, 1973	1010	484	0.5	-2.0	--
FEB. 14	1610	463	0.0	--	--
MAR. 14	--	4,530	--	3.0	--
APR. 25	1215	1,680	8.5	12.0	--
MAY 24	0830	1,080	12.0	8.0	--
JUNE 25	--	745	--	--	--
AUG. 08	1230	533	20.5	20.0	--
SEP. 13	1050	386	17.0	10.0	--

04043050 TRAP ROCK RIVER NEAR LAKE LINDEN, MICH.
(LAT 47°13'43", LONG 88°23'07")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 27, 1971	0920	14	11.5	14.0	--
DEC. 14	0930	36	0.0	-8.0	--
JAN. 25, 1972	1030	12	0.0	-15.0	--
MAR. 23	1015	23	0.0	7.0	--
MAY 02	1030	1,150	2.0	4.0	--
JUNE 22	0800	37	10.0	11.0	--
JULY 31	1700	16	22.0	22.5	--
SEP. 14	1545	14	14.5	13.0	--

--Thermograph installed --

04044400 CARP RIVER NEAR NEGAUNEE, MICH.
(LAT 46°31'29", LONG 87°34'25")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
NOV. 03, 1971	1645	103	6.5	0.0	--
DEC. 14	1520	64	0.3	-6.0	--
FEB. 03, 1972	1630	46	0.0	-10.0	--
MAY 25	1230	44	18.0	28.5	--
JUNE 27	1330	152	18.0	26.0	--
AUG. 23	1655	524	16.5	14.0	--
SEP. 26	1520	120	10.5	10.0	--
WATER YEAR 1973					
NOV. 09, 1972	1300	110	3.5	2.0	--
DEC. 11	1345	108	0.0	-12.0	--
JAN. 24, 1973	1120	129	0.0	0.0	--
APR. 04	--	47	2.0	1.0	--
APR. 18	1330	77	4.5	16.5	--
MAY 16	0845	94	7.0	0.0	--
JUNE 16	1640	90	19.0	23.0	--
AUG. 29	1300	51	21.0	28.0	--

04045500 TAHQUAMENON RIVER NEAR TAHQUAMENON PARADISE, MICH.
(LAT 46°34'30", LONG 85°16'10")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 12, 1971	1530	1,140	8.0	10.5	--
MAY 09, 1972	1330	5,790	15.0	10.0	--
JUNE 14	1205	546	17.0	24.5	--
JULY 26	--	487	--	19.0	--
WATER YEAR 1973					
OCT. 11, 1972	1200	565	9.5	12.5	--
NOV. 27	1445	571	1.0	1.0	--
MAR. 19, 1973	1455	2,870	0.0	6.0	--
APR. 25	1230	2,430	10.0	14.0	--
JULY 31	1845	726	19.5	18.5	

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE

STREAMS TRIBUTARY TO LAKE MICHIGAN

04056500 MANISTIQUE RIVER NEAR MANISTIQUE, MICH.
(LAT 46°01'30", LONG 86°09'40")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 13, 1971	1510	1,120	11.0	13.0	--
DEC. 29	1020	990	0.0	-10.0	--
JAN. 14, 1972	1130	955	0.0	-22.0	--
FEB. 07	1115	777	0.0	-20.0	--
MAR. 03	1230	744	0.0	-11.0	--
APR. 12	1230	1,240	0.0	5.0	--
MAY 16	1330	2,870	10.0	22.5	--
JUNE 15	1015	1,000	18.0	19.0	--
JULY 28	--	639	--	--	--
SEP. 08	1400	821	16.0	18.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1972	0830	962	8.5	4.0	--
NOV. 22	0945	1,030	1.5	-6.5	--
DEC. 15	1115	826	0.0	-10.0	--
JAN. 16, 1973	1210	839	0.0	-1.0	--
FEB. 14	1500	914	0.0	-5.0	--
APR. 06	1330	3,410	3.5	8.0	--
JUNE 01	1000	1,770	10.0	13.5	--
JULY 06	1010	1,230	19.0	20.0	--
AUG. 15	1230	1,440	19.0	22.5	--
SEP. 21	1130	766	11.5	13.0	--

04057510 STURGEON RIVER NEAR NAHMA JUNCTION, MICH.
(LAT 45°56'35", LONG 86°42'20")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 14, 1971	1220	207	9.5	14.5	--
DEC. 29	1330	141	0.0	-8.0	--
JAN. 14, 1972	1445	98	0.0	-21.0	--
FEB. 08	1245	79	0.0	-10.0	--
MAR. 03	1525	91	0.0	-11.0	--
APR. 13	0830	206	0.5	1.5	--
MAY 16	0915	339	13.0	17.5	--
JUNE 15	--	166	--	20.0	--
JULY 25	1435	88	20.5	30.0	--
SEP. 13	1330	97	14.0	19.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1972	1220	111	8.5	5.0	--
NOV. 22	1230	118	1.0	-3.5	--
DEC. 15	1415	94	0.0	-2.0	--
JAN. 16, 1973	1400	91	0.0	5.0	--
FEB. 01	1315	124	0.0	0.1	--
FEB. 27	0930	88	0.0	-8.0	--
APR. 17	0920	728	2.0	3.0	--
JUNE 01	1400	232	10.0	18.0	--
JULY 06	1315	149	18.5	21.0	--
AUG. 17	1130	107	18.5	26.0	--
SEP. 05	1420	120	20.0	26.0	--
SEP. 21	1430	66	14.0	14.0	--

04057800 MIDDLE BRANCH ESCANABA RIVER AT HUMBOLDT, MICH.
(LAT 46°29'57", LONG 87°53'11")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 03, 1971	1415	91	4.0	0.0	--
FEB. 03, 1972	1230	21	0.0	-10.0	--
MAR. 24	0830	30	0.0	-7.0	--
JUNE 27	--	38	--	--	--
AUG. 10	--	18	--	19.5	--
SEP. 27	1550	324	8.5	9.0	--

--Thermograph installed--

04058100 MIDDLE BRANCH ESCANABA RIVER NEAR PRINCETON, MICH.
(LAT 46°19'02", LONG 87°30'07")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1971	[illegible]	367	6.0	5.0	--
JUNE 22, 1972	0725	279	14.5	7.5	--
JUNE 22	1055	640	14.5	9.5	--
AUG. 09	2000	6.0	14.0	10.0	--
AUG. 09	2030	4.8	14.0	10.0	--
AUG. 17	1015	9.2	18.5	22.5	--
SEP. 28	1130	205	11.5	9.5	--

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04058100 MIDDLE BRANCH ESCANABA RIVER NEAR PRINCETON, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
FEB. 21, 1973	1500	204	0.0	-8.5	--
APR. 02	1225	466	2.0	1.5	--
APR. 18	1020	810	3.0	13.5	--
MAY 11	1245	1,530	8.0	7.5	--
JULY 17	1545	332	21.0	24.5	--

04058200 SCHWEITZER CREEK NEAR PALMER, MICH.
(LAT 46°26'40", LONG 87°37'27")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 01, 1971	1530	4.4	16.5	26.5	--
JULY 28, 1972	1455	4.7	12.0	18.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 09, 1972	1440	44	4.5	2.5	--
APR. 02, 1973	1530	49	2.5	1.0	--
MAY 16	1230	33	8.0	1.0	--
JULY 17	1415	4.0	15.0	26.0	--
SEP. 20	1445	4.9	11.0	9.0	--

04058300 WARNER CREEK NEAR PALMER, MICH.
(LAT 46°26'09", LONG 87°32'39")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
SEP. 25, 1972	1000	12	11.5	14.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 10, 1972	1100	40	3.5	3.5	--
DEC. 05	0950	8.9	0.0	-7.5	--
JAN. 25, 1973	1300	8.4	0.0	7.0	--
MAR. 20	1430	82	0.0	-2.0	--
APR. 06	1045	45	1.0	5.0	--
MAY 11	1050	150	8.0	7.0	--
MAY 17	1230	47	7.0	9.5	--
JUNE 14	1515	14	16.0	25.5	--
JUNE 15	1155	15	16.0	24.0	--
JULY 16	1000	16	14.0	19.0	--
AUG. 30	1050	10	19.0	24.5	--

04058400 GOOSE LAKE OUTLET NEAR SANDS STATION, MICH.
(LAT 46°23'36", LONG 87°29'40")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 03, 1971	1245	29	1.0	0.0	--
DEC. 09	1130	21	1.5	1.0	--
JAN. 31, 1972	1255	11	1.0	-10.5	--
MAR. 24	1110	9.8	1.0	1.0	--
MAY 30	1100	50	10.0	10.5	--
MAY 30	1300	53	10.0	10.5	--
JULY 21	1100	20	14.0	27.0	--
AUG. 23	1215	14	12.5	19.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 01, 1972	1630	26	4.0	6.0	--
DEC. 05	1105	21	0.5	-7.5	--
JAN. 25, 1973	--	17	0.5	1.0	--
MAR. 15	1130	105	0.5	2.0	--
APR. 27	1020	73	7.0	5.5	--
MAY 09	1520	237	10.0	13.0	--
JUNE 15	1030	30	15.5	23.5	--
JULY 16	1130	20	13.5	19.0	--
AUG. 30	0930	17	13.5	22.0	--

04058500 EAST BRANCH ESCANABA RIVER AT GWINN, MICH.
(LAT 46°17'10", LONG 87°26'00")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1971	1140	131	5.5	5.0	--
DEC. 13	1230	120	0.0	-4.0	--
JAN. 20, 1972	1300	46	0.0	-10.0	--
FEB. 02	1130	39	0.0	-4.0	--
MAR. 22	1100	51	0.0	-7.0	--
MAY 26	1400	100	18.5	28.5	--
JUNE 22	0900	104	11.5	8.0	--
AUG. 08	1345	42	13.0	10.0	--
AUG. 08	1355	42	13.0	10.0	--
SEP. 28	1330	244	11.0	10.0	--

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04058500 EAST BRANCH ESCANABA RIVER
AT GWINN, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 10, 1972	1235	319	3.5	3.0	--
DEC. 06	1115	57	0.0	5.0	--
JAN. 25, 1973	1300	36	0.0	7.0	--
MAR. 01	1100	46	0.0	2.0	--
APR. 02	0940	394	1.5	1.0	--
MAY 17	1015	255	6.0	6.5	
JUNE 14	1030	89	15.0	20.0	--
JULY 17	1905	58	19.5	22.0	--
AUG. 27	1030	75	21.5	23.0	--

04059000 ESCANABA RIVER AT CORNELL, MICH.
(LAT 45°54'31",LONG 87°12'49")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 23, 1971	1200	823	0.5	--	--
JAN. 07, 1972	1130	--	0.0	--	200
FEB. 16	0900	--	0.0	--	210
APR. 13	1030	5,190	0.0	--	240
APR. 28	1365	5,080	10.0	--	155
JUNE 19	0830	520	18.0	--	--
JULY 25	1220	1,150	22.0	--	--
SEP. 05	1030	290	16.5	--	--
SEP. 13	1220	455	17.0	--	235

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 26, 1972	1500	390	6.5	--	--
FEB. 27, 1973	1230	331	0.0	--	--
MAR. 27	1100	1,800	0.5	--	--
MAY 30	1330	1,180	10.0	--	--
JULY 05	1245	779	22.0	--	--
AUG. 13	1210	504	21.5	--	--
SEP. 19	0915	334	11.5	--	--

04059400 TENMILE CREEK AT PERRONVILLE, MICH.
(LAT 45°48'38",LONG 87°22'00"

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 11, 1971	1240	27	2.5	8.5	--
DEC. 28	1330	19	0.0	-10.0	--
JAN. 27, 1972	1400	7.4	0.0	-15.0	--
FEB. 16	1120	6.4	0.0	-12.0	--
MAR. 13	1230	6.1	0.0	-2.0	--
MAR. 31	1110	16	0.5	1.0	--
APR. 11	1450	20	0.0	5.0	--
APR. 26	1230	205	2.0	15.0	--
MAY 01	1510	480	4.0	6.5	--
JUNE 19	1330	6.9	20.0	26.5	--
JULY 24	1415	5.8	22.5	25.0	--
AUG. 22	1100	37	18.5	18.0	--
SEP. 13	1455	13	17.0	22.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 13, 1972	0900	22	8.0	3.5	--
NOV. 21	1430	25	0.0	1.0	--
DEC. 16	1415	5.6	0.0	-10.0	--
JAN. 15, 1973	1215	7.6	0.0	0.0	--
FEB. 05	1210	16	0.0	-2.0	--
MAR. 05	1330	13	0.0	1.0	--
MAR. 22	0915	57	0.0	-3.0	--
APR. 20	1230	178	7.5	12.5	--
MAY 30	0910	130	9.5	12.0	--
JULY 05	0920	23	16.5	18.0	--
AUG. 14	--	11	--	24.0	--
SEP. 18	1250	1.7	10.0	12.0	--

04059500 FORD RIVER NEAR HYDE, MICH.
(LAT 45°45'20",LONG 87°12'05")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 01, 1971	1500	125	18.5	28.5	--
NOV. 19	1315	317	6.0	.5	--
JAN. 07, 1972	1045	143	0.0	-5.5	320
FEB. 16	1300	97	0.0	-8.0	340
MAR. 13	1020	106	0.0	-2.0	--
APR. 11	1500	289	0.0	8.5	--
APR. 13	1100	--	0.0	1.0	305
MAY 19	1230	608	17.5	26.0	--
SEPT 13	1320	165	17.5	--	300

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04059500 FORD RIVER NEAR HYDE, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 20, 1972	1010	272	0.0	-1.5	--
DEC. 18	1110	137	0.0	-8.0	--
JAN. 23, 1973	1015	319	0.0	-1.0	--
FEB. 27	1400	106	0.0	-3.0	--
MAR. 27	0830	901	0.5	2.0	--
APR. 25	0930	1,400	7.0	11.0	--
MAY 30	1100	848	9.5	15.5	--
JULY 05	1445	247	21.5	23.0	--
AUG. 13	0930	147	20.5	17.5	--
SEP. 18	1330	108	11.7	13.0	--

04060500 IRON RIVER AT CASPIAN, MICH.
(LAT 46°03'31",LONG 88°37'38")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 28, 1971	1435	76	10.0	9.0	--
NOV. 29	--	73	--	-2.0	--
DEC. 29	1130	73	0.0	8.0	--
FEB. 09, 1972	1500	57	0.0	-4.0	--
MAR. 01	0930	59	0.5	--	--
MAR. 29	1540	70	1.0	--	--
APR. 28	1300	560	6.0	--	--
JUNE 29	1330	102	18.5	25.0	--
JULY 28	1400	91	16.0	21.0	--
AUG. 29	1130	157	16.0	15.0	--
SEP. 28	--	222	--	14.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 31, 1972	0830	112	2.0	-1.5	--
NOV. 29	1115	82	0.5	18.0	--
DEC. 28	1200	90	0.0	-4.0	--
JAN. 29, 1973	1510	103	0.5	-5.0	--
FEB. 27	1630	80	2.0	--	--
MAR. 16	1230	500	1.0	1.5	--
APR. 26	1500	187	8.5	13.0	--
MAY 29	1540	136	12.0	15.0	--
JUNE 29	1010	106	12.0	9.5	--
JULY 30	1700	106	17.0	24.0	--
AUG. 29	1540	80	20.5	28.0	--
SEP. 20	1400	85	8.0	11.0	--

04061000 BRULE RIVER NEAR FLORENCE, WIS.
(LAT 45°57'31",LONG 88°15'57")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 28, 1971	1345	318	10.5	12.0	--
DEC. 28	1000	280	0.0	-15.0	--
JAN. 27, 1972	1230	257	0.0	-15.0	--
FEB. 29	1430	268	0.0	--	--
MAR. 29	1230	337	0.0	1.5	--
APR. 28	1200	1,610	5.0	18.5	--
MAY 30	1230	644	18.5	8.0	--
JUNE 29	1425	427	21.0	24.5	--
JULY 28	1100	325	17.0	21.0	--
AUG. 30	1205	505	19.0	23.0	--
SEP. 27	1300	1,080	10.0	10.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 30, 1972	1130	458	3.5	2.0	--
DEC. 27	1400	411	0.0	-4.0	--
JAN. 30, 1972	1000	330	0.0	8.0	--
FEB. 27	1040	309	0.0	--	--
MAR. 26	1230	812	1.0	9.5	--
APR. 30	1050	512	5.5	6.5	--
MAY 30	1400	555	14.0	20.0	--
JUNE 27	1020	448	18.5	19.0	--
JULY 31	1330	390	16.0	--	--
AUG. 30	1230	301	21.0	25.0	--
SEP. 26	1545	363	13.5	17.0	--

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04061500 PAINT RIVER AT CRYSTAL FALLS, MICH.
(LAT 46°06'21",LONG 88°20'05")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 30, 1971	0930	387	0.5	-8.0	--
DEC. 29	1300	351	1.0	-3.0	--
JAN. 27, 1972	1340	332	0.5	0.0	--
FEB. 29	1630	305	0.5	-4.5	--
MAY 31	1230	1,430	18.0	16.5	--
AUG. 29	1430	878	19.5	21.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 29, 1972	1245	452	0.5	18.0	--
FEB. 28, 1973	1030	393	0.5	-2.0	--
MAY 29	1315	793	13.5	15.0	--
AUG. 29	1230	389	23.5	28.0	--

04062000 PAINT RIVER NEAR ALPHA, MICH.
(LAT 46°00'40",LONG 88°15'30")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 29, 1971	1150	86	11.0	7.0	--
NOV. 29	1230	91	0.0	-2.0	--
DEC. 28	1515	91	0.0	-10.5	--
FEB. 10, 1972	1030	81	0.0	-15.0	--
MAR. 01	1230	95	0.5	--	--
MAR. 30	1020	86	0.5	0.5	--
MAY 30	--	100	--	6.0	--
JUNE 30	1015	99	23.0	24.5	--
JULY 20	0930	86	22.0	25.5	--
AUG. 30	0955	82	21.0	20.0	--
SEP. 27	1035	101	11.5	9.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 30, 1972	1400	94	4.0	3.5	--
NOV. 30	0930	82	0.0	-4.0	--
DEC. 28	1415	96	0.0	-4.5	--
JAN. 29, 1973	1400	98	0.5	-1.0	--
FEB. 27	1400	96	0.0	--	--
MAR. 29	1615	1,290	4.0	13.0	--
APR. 24	1240	1,530	9.0	11.5	--
MAY 30	1165	154	16.0	19.5	--
JUNE 27	1250	89	20.0	23.5	--
JULY 31	1010	91	18.5	18.0	--
AUG. 30	1030	95	23.0	25.0	--
SEP. 25	1525	94	13.5	15.0	--

04062230 MICHIGAMME RIVER NEAR MICHIGAMME, MICH.
(LAT 46°28'00",LONG 88°04'28")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1971	1615	166	7.5	3.0	--
DEC. 10,	1155	193	1.0	2.0	--
MAY 22, 1972	1420	872	15.0	26.5	--
JULY 05	1300	172	19.0	23.5	--
AUG. 24	1335	155	18.0	15.5	--
SEP. 28	1005	368	12.0	10.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 04, 1972	1500	224	0.0	-10.0	--
JAN. 23, 1973	1415	124	0.0	-4.5	--
APR. 03	0900	995	1.5	-0.5	--
APR. 26	1030	1,190	6.0	10.5	--
MAY 10	1235	1,800	7.0	9.5	--
JUNE 14	1320	237	18.0	23.0	--
JULY 16	1315	112	21.5	22.5	--
AUG. 28	0830	105	22.0	23.5	--

04062300 MICHIGAMME RIVER AT REPUBLIC, MICH.
(LAT 46°23'03",LONG 87°58'48")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1971	1440	166	8.0	4.0	--
DEC. 15	1240	284	0.0	-1.0	--
FEB. 04, 1972	1030	113	0.0	-14.0	--
MAR. 23	1440	92	0.0	-1.0	--
MAY 22	1200	1,050	13.0	21.5	--
JULY 05	1145	166	17.0	21.0	--
AUG. 11	1140	132	17.5	17.5	--
SEP. 27	1200	567	11.0	10.5	--

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04062300 MICHIGAMME RIVER AT REPUBLIC, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 07, 1972	1220	448	4.0	7.0	--
DEC. 06	1310	199	0.0	-10.0	--
JAN. 23, 1973	--	118	0.0	-2.0	--
MAR. 06	1230	121	0.0	2.0	--
APR. 03	1340	1,140	2.0	1.0	--
MAY 15	1130	1,570	7.5	16.5	--
JUNE 14	1140	250	18.5	24.5	--
AUG. 28	1300	123	21.0	30.5	--

04062400 MICHIGAMME RIVER NEAR WITCH LAKE, MICH.
(LAT 46°14'48", LONG 88°00'45")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1971	1300	308	6.0	5.0	--
DEC. 15	1300	327	0.0	-1.0	--
FEB. 04, 1972	1245	166	0.0	-14.5	--
MAR. 23	1300	161	0.0	-4.5	--
MAY 22	0945	1,200	13.5	20.0	--
JULY 05	0945	200	18.0	19.0	--
AUG. 11	1330	202	15.0	19.5	--
SEP. 27	1130	709	11.0	9.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 07, 1972	1030	628	3.5	7.0	--
DEC. 12	1230	223	0.0	12.0	--
JAN. 23, 1973	1100	222	0.0	-4.5	--
MAR. 06	1130	210	0.0	2.0	--
APR. 03	1215	1,400	1.5	1.0	--
MAY 15	0930	1,890	7.5	9.0	--
JUNE 14	0930	328	17.5	23.0	--
AUG. 28	1040	163	21.0	25.5	--

04062500 MICHIGAMME RIVER NEAR CRYSTAL FALLS, MICH.
(LAT 46°06'50",LONG 88°12'57")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 29, 1971	1430	1,210	1.0	-5.0	--
APR. 20, 1972	1200	175	1.0	11.0	--
JULY 19	1605	148	22.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 31, 1972	1030	1,150	4.5	0.0	--
MAR. 20, 1973	1220	134	1.0	4.0	--
JULY 30	1500	701	20.5	23.0	--

04063000 MENOMINEE RIVER NEAR FLORENCE, WIS.
(LAT 45°57'04",LONG 88°11'13")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
FEB. 10, 1972	1300	1,260	0.0	-8.0	--
MAY 31	1115	3,380	18.0	14.0	--
JUNE 29	1220	2,700	19.5	20.0	--
SEP. 27	1545	4,030	12.0	12.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 27, 1972	1200	1,580	1.0	-3.0	--
MAR. 29, 1973	1120	4,440	4.0	5.0	--
JUNE 20	1100	301	18.5	16.5	--
SEP. 26	1415	2,760	12.0	18.0	--

04065300 WEST BRANCH STURGEON RIVER NEAR RANDVILLE, MICH.
(LAT 46°00'45",LONG 87°58'41")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 26, 1971	1120	31	11.0	12.5	--
DEC. 16	1040	32	0.0	-3.5	295
JAN. 21, 1972	1140	16	0.0	-10.0	320
FEB. 15	1200	16	0.0	-6.0	320
MAR. 14	1530	18	0.0	11.0	--
APR. 10	1615	20	0.0	28.0	300
MAY 17	1330	53	15.5	25.0	--
JUNE 20	1200	22	18.5	15.0	--
AUG. 25	1005	88	15.5	21.0	250

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04065300 WEST BRANCH STURGEON RIVER NEAR RANDVILLE, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 10, 1972	1115	43	10.0	9.5	--
NOV. 21	1020	33	0.5	-2.0	--
DEC. 12	1000	18	0.0	-10.0	--
JAN. 15, 1973	0930	22	0.0	-3.0	--
FEB. 06	1030	24	0.0	0.5	--
MAR. 05	1000	26	0.0	0.0	--
MAR. 19	1015	149	0.0	-1.0	--
MAY 11	1220	245	7.5	8.0	--
MAY 29	1030	70	9.5	11.5	--
JUNE 29	1240	48	17.5	14.0	--
JULY 03	1040	31	17.0	22.0	--
AUG. 14	1245	41	18.5	23.5	--
AUG. 27	1310	23	19.0	21.0	--
SEP. 20	1010	16	6.5	4.0	--

04065500 STURGEON RIVER NEAR FOSTER CITY, MICH.
(LAT 45°54'30", LONG 87°45'15")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 20, 1971	1325	154	12.5	14.5	--
DEC. 16	1230	203	0.0	-3.0	260
JAN. 21, 1972	1355	85	0.0	-10.0	370
FEB. 15	1430	75	0.0	-10.0	390
MAR. 14	1045	72	0.0	-1.0	--
APR. 11	1030	129	0.0	3.0	315
APR. 26	0930	1,220	2.0	7.0	--
JUNE 20	0930	96	19.0	14.0	--
JULY 24	1200	187	23.0	24.5	--
AUG. 25	1330	339	17.5	20.5	280

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 21, 1972	1215	149	0.5	-1.5	--
DEC. 14	1310	85	.0	-10.0	--
JAN. 15, 1973	1100	83	.0	-2.5	--
FEB. 06	1345	108	.0	-2.0	--
MAR. 05	1230	101	.0	3.0	--
MAR. 19	1230	848	.5	1.5	--
APR. 20	0930	891	8.0	13.0	--
MAY 29	1230	354	11.5	12.5	--
JULY 03	1325	170	20.0	21.0	--
AUG. 14	1030	159	17.5	18.0	--

04098500 FAWN RIVER NEAR WHITE PIGEON, MICH.
(LAT 41°46'56", LONG 85°35'00")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 13, 1972	1630	163	0.5	--	--
FEB. 22	1400	127	1.5	--	--
APR. 13	1235	178	15.0	--	--
JUNE 07	1520	135	24.0	--	--
JULY 06	1100	93	19.0	--	--
AUG. 08	0840	83	17.0	--	--
SEP. 19	1205	123	20.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1800	163	8.0	--	--
JAN. 03, 1973	1500	311	1.0	--	--
JAN. 29	1100	220	2.0	--	--
MAR. 06	1805	229	11.0	--	--
APR. 25	0910	296	14.5	--	--
JULY 05	1245	189	22.0	--	--
SEP. 10	1510	115	19.5	--	--

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04099000 ST. JOSEPH RIVER AT MOTTVILLE, MICH.
(LAT 41°48'03", LONG 85°45'22")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 12, 1972	1200	1,850	1.0	--	--
APR. 13	1420	1,980	13.0	--	--
JUNE 07	1155	1,780	23.0	--	--
JULY 06	1325	1,850	22.0	--	--
AUG. 07	1340	1,170	21.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 26, 1972	1120	1,450	8.0	--	--
NOV. 29	0945	2,140	2.0	--	--
JAN. 03, 1973	1705	4,280	1.0	--	--
MAR. 06	1645	2,620	8.0	--	--
APR. 24	1745	4,290	17.0		
MAY 29	1630	3,850	17.0	--	--
AUG. 09	1540	2,690	24.5	--	--
SEP. 10	1355	2,630	21.0	--	--

04101500 ST. JOSEPH RIVER AT NILES, MICH.
(LAT 41°49'45", LONG 84°15'35")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 11, 1972	1640	3,810	2.0	--	--
APR. 13	1820	4,550	12.5	--	--
JUNE 06	1830	2,930	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 27, 1972	1040	--	8.0	--	--
NOV. 03	1130	4,020	9.5	--	--
JAN. 04, 1973	1010	9,320	2.0	--	--
JAN. 30	1700	5,070	3.5	--	--
APR. 24	1010	7,720	16.0	--	--
MAY 30	1025	6,520	15.0	--	--
JULY 06	1005	4,020	23.0	--	--
SEP. 14	1005	2,010	19.5	--	--

04101800 DOWAGIAC RIVER AT SUMNERVILLE, MICH.
(LAT 41°54'57", LONG 86°12'47")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 12, 1972	0945	266	3.0	--	--
APR. 14	0820	210	9.5	--	--
JUNE 07	0925	183	17.0	--	--
AUG. 10	1445	148	17.0	--	--
SEP. 27	1100	245	15.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 03, 1972	1330	326	9.0	--	--
NOV. 28	1520	347	4.5	--	--
JAN. 31, 1973	0950	341	3.0	--	--
APR. 24	1245	684	14.5	--	--
MAY 30	1250	688	14.5	--	--
JULY 06	1135	305	21.0	--	--
AUG. 09	1145	220	22.0	--	--
SEP. 13	1620	147	14.0	--	--

04102500 PAW PAW RIVER AT RIVERSIDE, MICH.
(LAT 42°11'10", LONG 86°22'06")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 11, 1972	1325	545	2.0	--	--
APR. 12	1335	494	11.0	--	--
JUNE 06	1540	243	22.0	--	--
JULY 13	1550	260	23.0	--	--
AUG. 10	1230	249	17.0	--	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04102500 PAW PAW RIVER AT RIVERSIDE. MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 30, 1973	1445	714	1.5	--	--
MAR. 06	1135	486	6.0	--	--
APR. 26	1440	786	15.0	--	--
MAY 30	1655	904	15.0	--	--
JULY 06	1355	448	23.0	--	--
SEP. 13	1430	268	17.0	--	--

04102700 BLACK RIVER NEAR BANGOR, MICH.
(LAT 42°21'15",LONG 86°11'15")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 11, 1972	1115	107	2.0	--	--
APR. 12	0955	88	9.5	--	--
JUNE 06	1135	40	19.5	--	--
JULY 13	1345	32	23.0	--	--
AUG. 10	1010	35	14.5	--	--
SEP. 20	1240	56	17.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1972	1710	70	9.0	--	--
NOV. 28	1130	145	3.0	--	--
JAN. 30, 1973	1225	115	1.0	--	--
MAR. 06	1035	133	6.0	--	--
APR. 26	1615	184	15.0	--	--
MAY 31	0950	362	13.0	--	--
JULY 03	1240	62	20.0	--	--
AUG. 13	1255	31	19.0	--	--
SEP. 13	1230	31	14.0	--	--

04103500 KALAMAZOO RIVER AT MARSHALL, MICH.
(LAT 42°15'55",LONG 84°57'55")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 24, 1972	0945	306	0.5	--	--
MAR. 09	0935	250	0.0	--	--
JUNE 02	0930	273	15.0	--	--
AUG. 01	1640	59	22.0	--	--
AUG. 29	1525	254	23.0	--	--
AUG. 30	1005	--	23.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1972	1020	245	12.0	--	--
DEC. 27	0955	452	2.0	--	--
FEB. 20, 1973	1045	476	1.0	--	--
MAR. 26	1600	709	8.0	--	--
MAY 04	1040	514	9.0	--	--
JULY 19	1700	292	24.0	--	--
AUG. 27	1410	346	24.0	--	--
SEP. 27	1700	599	17.5	--	--

04105000 BATTLE CREEK AT BATTLE CREEK, MICH.
(LAT 42°19'55",LONG 85°09'15")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
APR. 12, 1972	1250	294	11.0	--	--
AUG. 01	2020	60	23.0	--	--
AUG. 30	1335	151	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1972	1235	125	11.0	--	--
FEB. 21, 1973	1425	178	0.5	--	--
MAY 04,	1225	354	10.0	--	--
JUNE 04	1240	--	25.0	--	--
JULY 19	1250	238	22.0	--	--
AUG. 27	1210	128	23.0	--	--
SEP. 29	1345	176	18.0	--	--

04105500 KALAMAZOO RIVER NEAR BATTLE CREEK, MICH.
(LAT 42°19'26",LONG 85°11'51")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 21, 1972	1240	519	0.5	--	--
MAR. 09	1050	474	0.0	--	--
APR. 12	1500	725	13.0	--	--
AUG. 02	1045	260	23.0	--	--
AUG. 30	1135	471	24.0	--	--

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04105500 KALAMAZOO RIVER NEAR BATTLE CREEK. MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1972	1425	474	12.0	--	--
DEC. 27,	1255	1,000	2.0	--	--
FEB. 21, 1973	1055	618	1.5	--	--
MAR. 26	1145	1,600	7.5	--	--
MAY 04	1335	1,200	11.5	--	--
JUNE 14	1345	992	24.0	--	--
JULY 19	1435	666	23.5	--	--
AUG. 27	1055	631	25.0	--	--
SEP. 29	1155	1,380	18.0	--	--

04105700 AGUSTA CREEK NEAR AGUSTA, MICH.
(LAT 42°21'12",LONG 85°21'14")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 20, 1971	1215	38	6.0	--	--
JAN. 21, 1972	0940	40	0.0	--	--
MAR. 08	0940	41	1.0	--	--
APR. 12	1645	42	13.0	--	--
JUNE 01	1445	42	14.0	--	--
JULY 27	1345	37	17.0	--	--
AUG. 30	1250	40	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1972	1615	33	12.0	--	--
DEC. 27	1110	48	2.0	--	--
FEB. 20, 1973	1600	41	4.0	--	--
MAR. 27	1210	61	7.5	--	--
MAY 02	1610	64	15.0	--	--
JUNE 12	1230	49	23.0	--	--
JULY 23	1350	45	21.0	--	--

04105800 GULL CREEK NEAR GALESBURG, MICH.
(LAT 42°18'54",LONG 85°24'04")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 23, 1971	1355	41	16.0	--	--
JAN. 21, 1972	1040	32	0.0	--	--
MAR. 08	1055	28	1.0	--	--
APR. 13	1550	18	13.0	--	--
JULY 27	1210	46	22.0	--	--
AUG. 30	1540	61	25.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1972	1735	51	12.0	--	--
DEC. 26	1505	36	3.0	--	--

04106000 KALAMAZOO RIVER AT COMSTOCK, MICH.
(LAT 42°17'05",LONG 85°30'50")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 16, 1971	1115	519	19.0	--	--
NOV. 20	1110	525	13.0	--	--
DEC. 04	1210	513	9.0	--	--
DEC. 08	1410	--	9.5	--	--
JAN. 19, 1972	1420	753	5.0	--	--
MAR. 08	1305	853	5.5	--	--
JUNE 02	1310	--	22.0	--	--
JULY 27	1030	578	26.0	--	--
AUG. 17	1235	537	27.0	--	--
AUG. 31	1730	--	29.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1525	920	19.0	--	--
DEC. 26	1400	1,270	4.0	--	--
FEB. 20, 1973	1315	933	5.0	--	--
MAR. 27	1000	1,980	9.0	--	--
MAY 02	1205	1,650	17.0	--	--
JUNE 12	1055	1,450	27.0	--	--
JULY 23	1200	929	24.0	--	--

04106300 PORTAGE CREEK NEAR KALAMAZOO, MICH.
(LAT 42°14'46",LONG 85°34'33")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JULY 25, 1972	1630	32	23.0	--	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04106300 PORTAGE CREEK NEAR KALAMAZOO, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 07, 1972	1240	36	11.0	--	--
DEC. 26	1230	31	7.0	--	--
JAN. 31, 1973	1335	40	9.0	--	--
MAR. 26	1110	45	12.0	--	--
MAY 01	1355	66	14.5	--	--
JUNE 11	1040	43	20.0	--	--
AUG. 24	1435	39	18.0	--	--
SEP. 25	1440	40	19.0	--	--

04106400 WEST FORK PORTAGE CREEK AT KALAMAZOO, MICH.
(LAT 42°14'40", LONG 85°36'50")

WATER YEAR 1972

JUNE 13, 1972	1005	7.4	21.5	--	--
JULY 25	1245	5.9	26.0	--	--
AUG. 17	1230	6.7	25.5	--	--
AUG. 31	1310	6.7	25.0	--	--

WATER YEAR 1973

OCT. 05, 1972	1230	8.1	16.0	--	--
DEC. 26	1125	7.9	3.0	--	--
JAN. 31, 1973	1220	7.6	3.5	--	--
MAR. 26	1230	9.0	9.0	--	--
MAY 01	1245	13	14.0	--	--
JUNE 11	1150	10	25.0	--	--
JULY 20	1230	10	25.5	--	--
AUG. 24	1255	12	20.5	--	--
SEP. 25	1310	10	18.0	--	--

04108500 KALAMAZOO RIVER NEAR FENNVILLE, MICH.
(LAT 42°35'36", LONG 85°59'03")

WATER YEAR 1972

JAN. 10, 1972	1645	1,650	2.0	--	--
APR. 11	1640	1,850	8.5	--	--
JUNE 05	1655	1,130	22.5	--	--
AUG. 09	1640	1,140	21.0	--	--

WATER YEAR 1973

NOV. 02, 1972	1500	1,810	9.0	--	--
NOV. 27	1615	1,860	3.5	--	--
JAN. 30, 1973	1015	2,260	2.5	--	--
MAR. 05	1715	2,270	5.5	--	--
MAY 31	1255	3,580	17.0	--	--
JULY 03	1040	1,180	23.0	--	--
SEP. 13	1040	1,120	20.0	--	--

04108600 RABBIT RIVER NEAR HOPKINS, MICH.
(LAT 42°38'32", LONG 85°43'19")

WATER YEAR 1972

JAN. 10, 1972	1805	70	2.0	--	--
FEB. 24	1620	42	0.0	--	--
APR. 11	1350	55	11.5	--	--
JUNE 05	1435	25	21.5	--	--
JULY 13	1135	20	22.0	--	--
AUG. 09	1425	42	17.0	--	--
SEP. 20	1035	54	16.0	--	--

WATER YEAR 1973

NOV. 01, 1972	1455	51	6.5	--	--
NOV. 27	1400	89	2.5	--	--
JAN. 29, 1973	1520	69	1.5	--	--
MAR. 05	1455	139	3.5	--	--
APR. 27	1050	69	13.0	--	--
JUNE 05	1415	239	21.0	--	--
JULY 02	1440	35	21.0	--	--
AUG. 14	1300	23	22.0	--	--
SEP. 12	1515	21	17.0	--	--

04108800 BLACK RIVER NEAR ZEELAND, MICH.
(LAT 42°46'40", LONG 86°01'06")

WATER YEAR 1972

JAN. 10, 1972	1410	72	2.0	--	--
APR. 12	0800	26	8.0	--	--
JUNE 05	1850	5.2	22.0	--	--
JULY 13	0930	9.1	20.5	--	--
AUG. 10	0835	48	15.0	-	--

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04108800 BLACK RIVER NEAR ZEELAND, MICH.--Continued

WATER YEAR 1973

NOV. 01, 1972	1310	46	7.0	--	--
NOV. 28	0830	119	1.5	--	--
JAN. 29, 1973	1650	55	1.5	--	--
APR. 27	0755	32	11.0	--	--
AUG. 16	1115	3.0	23.0	--	--
SEP. 13	0820	2.3	13.0	--	--

04109000 GRAND RIVER AT JACKSON, MICH.
(LAT 42°17'05", LONG 84°24'30")

WATER YEAR 1972

OCT. 08, 1971	1035	45	15.0	--	--
NOV. 12	0910	44	10.5	--	--
DEC. 18	0850	83	1.5	--	--
JAN. 24, 1972	1115	151	2.5	--	--
APR. 14	1025	154	11.0	--	--
JULY 26	1430	54	20.5	--	--
AUG. 28	1220	64	21.0	--	--

WATER YEAR 1973

OCT. 11, 1972	1325	65	16.5	--	--
NOV. 06	1135	95	11.0	--	--
DEC. 28	1040	166	1.0	--	--
FEB. 12, 1973	0945	148	2.0	--	--
MAR. 27	0950	321	5.5	--	--
MAY 01	1005	210	14.5	--	--
JUNE 12	1540	221	25.5	--	--
JULY 18	1330	126	22.0	--	--
AUG. 27	1630	157	25.0	--	--
SEP. 22	0945	80	17.5	--	--

04111000 GRAND RIVER NEAR EATON RAPIDS, MICH.
(LAT 42°32'05", LONG 84°37'25")

WATER YEAR 1972

OCT. 08, 1971	0905	169	13.5	--	--
NOV. 12	1055	144	5.5	--	--
DEC. 18	1055	618	1.0	--	--
JAN. 24, 1972	1330	532	0.0	--	--
MAR. 07	1610	422	1.5	--	--
APR. 14	1210	--	12.0	--	--
MAY 22	1230	--	22.5	--	--
JULY 28	1455	194	23.0	--	--
SEP. 01	1500	202	24.5	--	--

WATER YEAR 1973

OCT. 04, 1972	1645	336	15.5	--	--
NOV. 06	1610	600	9.0	--	--
DEC. 28	1530	733	1.0	--	--
FEB. 12, 1973	1420	583	0.5	--	--
MAR. 27	1350	1,610	8.0	--	--
MAY 01	1400	827	12.0	--	--
JUNE 14	1005	680	23.5	--	--
JULY 18	0915	319	21.0	--	--
AUG. 29	1445	226	26.0	--	--

04111500 DEER CREEK NEAR DANSVILLE, MICH.
(LAT 42°36'30", LONG 84°19'15")

WATER YEAR 1972

NOV .12, 1971	1510	1.0	6.5	--	--
DEC. 10	1010	6.6	6.0	--	--
JAN. 06, 1972	1400	--	0.0	--	--
MAR. 17	1405	--	0.0	--	--
JULY 10	0950	1.2	18.0	--	--
AUG. 28	1025	1.0	18.0	--	--

WATER YEAR 1973

OCT. 06, 1972	1440	3.8	14.0	--	--
NOV. 06	0920	--	6.0	--	--
DEC. 26	1405	27	2.0	--	--
FEB. 12, 1973	1545	12	0.5	--	--
MAR. 26	1010	46	4.0	--	--
MAY 04	0915	12	6.0	--	--
JULY 17	1145	2.2	17.5	--	--
SEP. 25	1020	.54	13.0	--	--

04112000 SLOAN CREEK NEAR WILLIAMSTON, MICH.
(LAT 42°40'33", LONG 84°21'50")

WATER YEAR 1972

NOV. 12, 1971	1610	.34	7.5	--	--
DEC. 10	1100	3.4	6.5	--	--
JAN. 06, 1972	1500	3.5	0.0	--	--
MAR. 07	0945	3.0	0.0	--	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04112000 SLOAN CREEK NEAR WILLIAMSTON, MICH.--Continued

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
APR. 11	1330	5.9	10.0	--	--
JULY 26	1220	.30	17.0	--	--
AUG. 28	0915	.70	17.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
OCT. 06, 1972	1530	1.7	14.0	--	--
NOV. 06	0850	--	6.0	--	--
DEC. 26	1305	18	2.0	--	--
FEB. 13, 1973	1530	3.8	0.0	--	--
FEB. 23	0830	--	0.0	--	--
MAR. 26	0915	21	4.0	--	--
MAY 04	0915	5.4	6.0	--	--
JUNE 14	1435	2.4	20.0	--	--
JULY 17	1035	.70	16.0	--	--
SEP. 25	0905	.25	13.0	--	--

04112500 RED CEDAR RIVER AT EAST LANSING, MICH.
(LAT 42°43'40", LONG 84°28'40")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
MAR. 27, 1972	0910	435	4.0	--	--
JUNE 28	1035	65	19.0	--	--
JULY 26	0920	40	23.0	--	--
SEP. 26	0935	140	18.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
OCT. 26, 1972	1440	270	7.5	--	--
DEC. 26	1055	437	2.0	--	--
JAN. 26, 1973	1625	404	1.0	--	--
FEB. 23	1005	165	1.0	--	--
APR. 26	0940	500	13.0	--	--
JUNE 22	0910	112	21.5	--	--
JULY 27	0945	61	26.0	--	--
AUG. 29	0820	--	25.0	--	--
SEP. 26	1110	40	18.0	--	--

04114000 GRAND RIVER AT PORTLAND, MICH.
(LAT 42°51'20", LONG 84°54'45")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
OCT. 30, 1971	1005	338	16.0	--	--
NOV. 19	0915	265	10.0	--	--
DEC. 11	1220	1,610	7.5	--	--
JAN. 27, 1972	1645	--	0.0	--	--
FEB. 14	1000	--	0.0	--	--
MAR. 01	1440	810	4.5	--	--
AUG. 02	1455	412	24.0	--	--
AUG. 31	1430	465	26.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
OCT. 03, 1972	1025	669	17.0	--	--
DEC. 29	1000	1,740	2.0	--	--
MAR. 28, 1973	1020	3,490	8.0	--	--
MAY 02	1025	1,780	16.0	--	--
JUNE 13	1540	1,200	26.5	--	--
JULY 19	1320	459	26.0	--	--

04114500 LOOKINGGLASS RIVER NEAR EAGLE, MICH.
(LAT 42°49'45", LONG 84°46'40")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
OCT. 30, 1971	0930	40	13.0	--	--
NOV. 19	1050	42	9.0	--	--
DEC. 11	0935	154	5.0	--	--
JAN. 09, 1972	1135	109	0.0	--	--
MAR. 08	0840	--	0.0	--	--
MAR. 09	1450	163	0.0	--	--
MAY 03	1500	498	14.0	--	--
AUG. 02	1740	66	22.5	--	--
AUG. 31	1620	72	24.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
DEC. 29, 1972	1045	271	0.5	--	--
FEB. 14, 1973	1325	221	0.5	--	--
MAR. [illegible]	1605	854	8.0	--	--
MAY [illegible]	1200	393	16.0	--	--
JUNE 13	1725	217	25.5	--	--
JULY 19	1130	59	22.0	--	--
AUG. 30	1050	39	24.0	--	--

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04115000 MAPLE RIVER AT MAPLE RAPIDS, MICH.
(LAT 43°06'35", LONG 84°41'35")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
OCT. 02, 1971	0850	40	20.0	--	--
NOV. 06	0945	45	9.0	--	--
DEC. 21	1125	594	1.5	--	--
FEB. 04, 1972	1405	--	0.0	--	--
MAR. 01	1155	97	0.5	--	--
MAY 25	1400	200	23.5	--	--
AUG. 03	1100	146	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
OCT. 06, 1972	1020	88	15.0	--	--
DEC. 29	1415	473	1.0	--	--
FEB. 14, 1973	1115	306	0.5	--	--
MAR. 28	1320	1,030	8.0	--	--
MAY 02	1550	510	16.0	--	--
JUNE 13	1255	422	23.5	--	--
JULY 19	1005	100	22.0	--	--
AUG. 29	1125	28	26.0	--	--
SEP. 25	1440	27	18.0	--	--

04116000 GRAND RIVER AT IONIA, MICH.
(LAT 42°58'20", LONG 85°04'13")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
OCT. 02, 1971	1040	862	20.5	--	--
NOV. 06	1125	359	13.5	--	--
DEC. 11	1420	2,820	5.5	--	--
JAN. 27, 1972	1420	--	0.0	--	--
FEB. 14	1310	--	0.0	--	--
FEB. 16	1420	--	0.0	--	--
MAR. 08	0945	--	0.0	--	--
AUG. 02	1020	410	23.0	--	--
AUG. 29	1020	1,070	21.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
OCT. 03, 1972	1245	1,170	16.0	--	--
DEC. 29	1135	3,370	1.0	--	--
MAR. 27	1105	8,140	6.0	--	--
MAY 01	1010	3,470	12.0	--	--
AUG. 24	1350	384	21.0	--	--

04116500 FLAT RIVER AT SMYRNA, MICH.
(LAT 43°03'10", LONG 85°15'50")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
NOV. 06, 1971	1340	227	8.5	--	--
FEB. 16, 1972	1330	362	0.0	--	--
MAR. 08	1040	--	0.0	--	--
MAY 02	1045	548	15.0	--	--
MAY 24	1055	400	21.0	--	--
AUG. 01	1035	160	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
NOV. 03, 1972	1510	383	16.0	--	--
DEC. 27	1615	494	1.0	--	--
MAR. 27, 1973	1340	751	7.5	--	--
MAY 01	1205	856	11.0	--	--
JUNE 15	1300	312	21.0	--	--
JULY 24	1150	290	21.0	--	--
AUG. 24	1220	302	19.0	--	--

04117000 QUAKER BROOK NEAR NASHVILLE, MICH.
(LAT 42°33'57", LONG 85°05'37")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
NOV. 20, 1971	1330	5.4	6.5	--	--
JAN. 27, 1972	0830	--	0.0	--	--
MAR. 08	1530	14	0.0	--	--
MAY 03	0905	8.5	10.0	--	--
JULY 27	1510	5.0	17.0	--	--
AUG. 29	1335	6.6	19.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	CONDUCTANCE (UMHOS at 25°C)
NOV. 04, 1972	1405	5.4	13.5	--	--
FEB. 21, 1973	1325	7.5	2.0	--	--
MAR. 29	1305	14	8.5	--	--
JUNE 14	1515	--	25.0	--	--
JUNE 28	1225	103	18.0	--	--
JUNE 28	1600	85	18.0	--	--
AUG. 23	1440	4.6	15.0	--	--

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04117500 THORNAPPLE RIVER NEAR HASTINGS, MICH.
(LAT 42°26'57", LONG 85°14'11")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 20, 1971	1500	152	6.5	--	--
DEC. 18	1355	1,110	2.0	--	--
JAN. 27, 1972	1015	389	0.0	--	--
MAR. 08	1415	436	1.5	--	--
MAY 02	1535	466	14.0	--	--
AUG. 01	1450	117	25.0	--	--
SEP. 01	1245	284	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1972	1250	248	15.5	--	--
DEC. 27	1100	613	1.0	--	--
MAR. 29, 1973	1200	1,010	7.5	--	--
MAY 04	1035	559	10.5	--	--
JUNE 19	1410	283	25.0	--	--
JULY 24	1635	156	25.0	--	--
AUG. 23	1340	125	22.0	--	--

0411800 THORNAPPLE RIVER NEAR CALEDONIA, MICH.
(LAT 42°48'40", LONG 85°29'00")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 02, 1971	1345	435	21.0	--	--
NOV. 06	1535	338	8.0	--	--
FEB. 16, 1972	1125	412	0.0	--	--
MAY 31	1045	469	14.5	--	--
AUG. 01	1410	290	23.0	--	--
SEP. 01	1340	762	21.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 27, 1971	1320	1,140	2.0	--	--
MAY 01, 1972	1425	1,390	13.0	--	--
JULY 24	1435	393	22.0	--	--
AUG. 23	1155	409	18.0	--	--

04118500 ROGUE RIVER NEAR ROCKFORD, MICH.
(LAT 43°05'00", LONG 85°35'30")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 10, 1972	0915	223	0.0	--	--
APR. 11	0925	289	7.5	--	--
JUNE 05	0940	123	19.0	--	--
JULY 12	1040	107	24.0	--	--
AUG. 09	1030	142	15.0	--	--
SEP. 18	1100	456	18.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 01, 1972	1120	351	5.5	--	--
NOV. 27	1030	238	3.0	--	--
JAN. 29, 1973	1130	310	0.5	--	--
MAR. 05	1040	622	1.0	--	--
APR. 27	1335	367	13.5	--	--
JUNE 01	1155	566	17.0	--	--
JULY 02	1020	276	18.0	--	--
AUG. 16	1530	163	24.0	--	--
SEP. 12	1050	116	14.0	--	--

04119000 GRAND RIVER AT GRAND RAPIDS, MICH.
(LAT 42°57'52", LONG 85°40'35")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 20, 1972	1210	4,750	1.0	--	--
APR. 11	1155	5,940	7.5	--	--
JUNE 05	1125	2,460	23.0	--	--
JULY 12	1445	1,360	25.5	--	--
AUG. 09	1245	2,340	18.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1972	1055	5,540	7.0	--	--
JAN. 29, 1973	1325	7,790	1.5	--	--
MAR. 05	1235	8,400	3.0	--	--
JUNE 01	1525	8,960	17.0	--	--
AUG. 10	1400	2,050	24.0	--	--
SEP. 12	1300	1,300	20.0	--	--

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04121000 MUSKEGON RIVER NEAR MERRITT, MICH.
(LAT 44°20'08", LONG 84°53'24")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 13, 1971	1355	64	11.5	15.0	--
NOV. 02	0910	54	7.5	8.0	--
DEC. 02	1000	50	1.0	-5.0	--
JAN. 03, 1972	0935	109	1.0	-8.5	--
FEB. 08	0940	73	0.5	-18.0	--
MAR. 16	1500	258	2.0	3.0	--
APR. 20	1440	920	7.5	10.0	--
JUNE 05	1640	330	22.5	26.0	--
JULY 17	1310	165	23.5	26.5	--
SEP. 07	0935	86	17.0	16.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 10, 1972	0950	106	9.0	4.5	--
NOV. 14	0905	266	2.0	-2.5	--
DEC. 29	1430	271	0.5	4.5	--
FEB. 05, 1973	1200	425	0.0	-3.0	--
MAR. 12	1230	618	3.5	5.0	--
APR. 09	0845	506	4.0	-2.0	--
MAY 07	0840	345	10.5	10.5	--
JUNE 21	0845	121	19.0	17.0	--
JULY 26	0950	137	22.0	21.5	--
SEP. 05	1100	154	23.5	21.0	--

04121300 CLAM RIVER AT VOGEL CENTER, MICH.
(LAT 44°12'02", LONG 85°03"10")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1971	0940	76	17.5	22.0	--
NOV. 02	1040	91	19.0	23.0	--
DEC. 02	1135	76	20.0	22.5	--
JAN. 03, 1972	1125	154	7.0	9.5	--
FEB 08	1150	105	2.5	3.0	--
MAR. 16	1305	105	0.0	-12.0	--
APR..20	1235	384	1.0	2.0	--
JUNE 05	1220	75	1.0	-3.5	--
JULY 18	0930	70	7.5	9.0	--
SEP. 06	1355	64	15.0	13.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 10, 1972	1150	91	8.5	9.0	--
NOV. 14	1035	106	2.0	-1.5	--
DEC. 20	1020	86	0.5	-3.0	--
FEB. 05, 1973	0945	151	0.0	-4.5	--
MAR. 12	0955	275	6.0	4.0	--
APR. 10	1345	181	3.5	0.0	--
MAY 14	0945	165	9.0	6.0	--
JUNE 18	1025	68	16.5	17.0	--
JULY 23	1020	60	18.0	28.5	--
AUG. 13	1310	68	19.5	24.0	--

04122000 MUSKEGON RIVER AT NEWAYGO, MICH.
(LAT 43°25'20", LONG 85°48'04")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1971	1555	990	19.0	17.5	--
NOV. 01	1440	984	13.0	10.5	--
DEC. 06	1445	997	3.5	4.5	--
JAN. 05, 1972	1650	2,120	0.0	-9.0	--
FEB. 14	1450	1,630	2.0	4.5	--
MAR. 20	1520	2,130	3.0	8.5	--
MAY 02	0935	2,510	9.5	16.5	--
JUNE 14	0920	1,390	17.0	24.0	--
JULY 24	1430	993	22.0	31.5	--
SEP. 05	1525	1,460	20.0	23.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 20, 1972	1325	1,760	5.0	4.5	--
JAN. 02, 1973	1510	3,630	0.5	-3.0	--
FEB. 12	1540	2,260	1.5	0.0	--
MAR. 19	1540	4,740	3.5	8.5	--
APR. 17	1450	3,370	9.5	13.0	--
MAY 23	1320	2,130	13.0	15.0	--
JULY 09	1540	1,260	24.0	31.0	--
AUG. 13	1410	1,270	23.0	27.0	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04122100 BEAR CREEK NEAR MUSKEGON, MICH.
(LAT 43° 17'19", LONG 86°13'22")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 05, 1971	1130	3.5	13.0	19.5	--
NOV. 02	1140	4.3	10.5	9.0	--
DEC. 07	1130	6.6	4.0	3.5	--
JAN. 06, 1972	1120	11	0.0	-3.5	--
FEB. 15	1140	8.6	1.5	-1.0	--
MAR. 21	1035	60	1.0	14.0	--
MAY 02	1245	21	12.0	15.5	
JUNE 13	1225	6.0	15.0	24.0	--
JULY 25	1020	4.3	17.5	21.0	
SEP. 06	1105	6.8	17.0	21.5	--
WATER YEAR 1973					
NOV. 21, 1972	0835	11	4.0	1.0	--
JAN. 03, 1973	0845	25	0.0	-7.0	--
FEB. 13	1155	10	0.0	-1.0	--
MAR. 20	0830	26	2.5	-0.5	--
APR. 18	0765	21	8.0	10.5	--
MAY 24	0900	14	11.5	15.5	--
JULY 10	1005	8.2	19.0	25.0	--
AUG. 14	0910	3.5	20.0	21.0	--
AUG. 30	1155	3.8	20.0	27.0	--

04122200 WHITE RIVER NEAR WHITEHALL, MICH.
(LAT 43°27'51", LONG 86°13'57")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 05, 1971	0905	207	13.0	12.5	--
NOV. 02	0900	242	9.5	8.5	--
DEC. 07	0900	289	3.0	1.0	--
JAN. 06, 1972	1005	252	0.0	-4.5	--
FEB. 15	1030	339	0.0	-1.5	--
MAR. 21	0940	452	4.0	10.5	--
MAY 02	1140	444	13.0	15.5	--
JUNE 13	1500	303	17.5	27.0	--
JULY 25	0855	231	21.0	20.5	--
SEP. 06	0905	264	16.5	20.5	--
WATER YEAR 1973					
OCT. 17, 1972	0850	246	8.0	1.5	--
NOV. 21	1030	328	3.0	3.0	--
JAN. 03, 1973	1040	761	0.0	-3.5	--
FEB. 13	1428	415	0.0	3.0	--
MAR. 20	1200	633	4.0	7.0	--
APR. 18	1045	616	9.5	15.5	--
MAY 24	1130	449	14.5	20.5	--
JULY 10	0905	279	21.5	24.0	--
AUG. 14	0710	252	19.0	20.0	--

04123000 BIG SABLE RIVER NEAR FREESOIL, MICH.
(LAT 44°07'13", LONG 86°16'48")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 06, 1971	0835	90	12.5	13.0	320
NOV. 03	1500	123	7.5	3.5	325
DEC. 08	1440	123	4.5	4.5	325
FEB. 16, 1972	0845	92	0.0	-11.0	330
MAR. 22	0840	223	3.5	-2.0	280
MAY 03	1505	195	10.0	6.5	270
JUNE 12	1625	115	12.5	17.0	330
JULY 25	1625	94	21.0	20.0	300
SEP. 06	1600	108	16.0	20.5	320
WATER YEAR 1973					
OCT. 18, 1972	0805	105	1.0	1.0	310
NOV. 21	1500	124	3.5	2.5	315
JAN. 03, 1973	1355	163	0.5	1.0	280
FEB. 14	0845	139	0.5	-3.5	315
MAR. 07	0840	238	5.5	12.0	--
MAR. 20	1635	193	6.0	4.5	360
APR. 19	0810	171	12.0	14.5	365
MAY 24	1615	136	17.0	21.5	335
JULY 10	1540	107	22.5	23.0	320
AUG. 14	1635	96	20.0	26.5	320

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04123500 MANISTEE RIVER NEAR GRAYLING, MICH.
(LAT 44°41'35", LONG 84°50'50")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 12, 1971	1500	180	9.4	13.5	290
NOV. 01	1255	173	6.0	10.0	300
DEC. 03	1010	177	1.5	-1.5	300
JAN. 11, 1972	0940	201	1.5	-5.0	300
FEB. 10	1100	182	0.5	-12.0	300
MAR. 14	1110	164	1.0	-1.0	290
APR. 28	1330	235	10.5	18.0	260
JUNE 05	1245	185	15.0	21.0	280
JULY 18	1330	181	17.5	27.0	290
SEP. 14	1055	177	12.5	22.5	290
WATER YEAR 1973					
OCT. 10, 1972	0905	176	5.0	0.0	290
NOV. 14	0910	183	2.0	-3.0	290
DEC. 29	1110	175	0.5	-4.0	300
FEB. 05, 1973	0900	199	1.0	-7.5	280
MAR. 12	0840	258	7.0	3.0	245
APR. 10	0940	206	0.5	-1.5	330
MAY 14	1235	191	8.0	10.5	380
JUNE 18	1000	184	12.0	16.0	300
JULY 25	1250	174	15.0	22.0	--
AUG. 14	0805	181	16.0	18.5	280

04124000 MANISTEE RIVER, NEAR SHERMAN, MICH.
(LAT 44°26'11", LONG 85°41'55")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 07, 1971	1230	892	11.0	10.5	300
NOV. 04	1445	1,040	6.5	4.5	300
DEC. 09	1205	996	4.0	4.0	300
FEB. 09, 1972	1310	839	0.0	-8.0	320
MAR. 15	1405	827	3.5	5.5	270
APR. 20	1055	2,190	6.5	10.0	230
JUNE 08	1305	873	18.0	25.0	300
JULY 20	1325	930	20.0	30.5	285
SEP. 06	1145	853	14.0	18.5	305
WATER YEAR 1973					
OCT. 11, 1972	1240	836	8.5	14.5	300
NOV. 16	1400	962	3.0	1.0	300
DEC. 20	1305	1,010	0.0	-1.5	300
FEB. 06, 1973	1305	1,230	2.0	2.0	280
MAR. 13	1420	1,730	6.0	9.0	270
APR. 11	1305	1,170	3.5	7.0	370
MAY 16	1335	1,050	10.0	6.0	300
JUNE 20	1415	967	18.0	25.0	310
JULY 25	1230	809	19.0	29.0	--
AUG. 15	1300	809	18.0	23.0	310

04125500 PINE RIVER NEAR HOXEYVILLE, MICH.
(LAT 44°12'11", LONG 85°47'58")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 07, 1971	0940	242	9.5	9.0	310
NOV. 04	1010	269	6.5	3.5	290
DEC. 09	0930	269	5.0	3.5	310
JAN. 07, 1972	1300	245	1.5	-2.0	315
FEB. 09	1050	223	0.5	-9.0	310
MAR. 15	1110	220	4.5	5.5	315
MAY 05	1215	430	9.0	15.0	240
JUNE 08	1045	218	14.5	24.5	310
JULY 20	1040	229	16.0	29.5	305
SEP. 06	1005	215	12.0	18.0	300
WATER YEAR 1973					
OCT. 11, 1972	1030	217	8.0	15.5	300
NOV. 16	1120	249	3.5	0.5	300
DEC. 20	1145	251	4.0	-1.5	340
FEB. 16, 1973	1035	322	3.0	0.0	285
MAR. 13	1020	575	5.0	5.5	250
APR. 11	1035	328	3.0	6.5	330
MAY 16	1030	299	9.5	3.0	305
JUNE 20	1120	253	15.0	24.0	320
JULY 25	1055	217	14.5	27.5	--
AUG. 15	1030	216	13.5	21.5	310

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04126000 MANISTEE RIVER NEAR MANISTEE, MICH.
(LAT 44°16'14", LONG 86°11'56")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 06, 1971	1455	1,260	14.5	10.5	310
NOV. 03	0950	2,290	10.0	5.5	325
DEC. 08	0930	2,310	3.0	2.0	320
JAN. 07, 1972	0940	1,500	0.5	-2.0	295
MAR. 22	1145	1,800	1.5	-5.0	310
MAY 04	0905	2,970	8.0	10.0	250
JUNE 12	1250	1,090	15.5	14.5	330
JULY 26	0755	1,240	19.0	12.5	320
SEP. 07	0925	1,830	18.0	20.5	320
WATER YEAR 1973					
OCT. 18, 1972	1055	1,850	8.5	2.0	315
NOV. 22	0935	1,910	3.0	-1.0	295
JAN. 04, 1973	0820	2,880	0.0	-0.5	300
FEB. 14	0945	1,630	1.0	-3.0	280
MAR. 21	1150	2,810	3.5	3.0	320
APR. 19	1030	2,840	9.0	18.0	360
MAY 25	0850	2,110	15.5	14.5	300
JULY 11	0800	1,940	20.5	15.0	300
AUG. 15	0920	1,720	20.0	17.0	320

04126200 LITTLE MANISTEE RIVER NEAR FREESOIL, MICH.
(LAT 44°11'00", LONG 86°10'00")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 06, 1971	1240	136	12.0	10.0	280
NOV. 03	1300	162	8.5	4.5	275
DEC. 08	1145	153	5.5	3.0	285
JAN. 07, 1972	1010	155	1.0	-1.5	300
FEB. 16	1210	133	1.5	-2.0	300
MAR. 22	1355	191	4.5	-4.0	290
MAY 03	1540	271	10.0	6.0	255
MAY 04	1110	239	9.5	10.0	--
JUNE 12	1305	158	13.0	17.0	300
JULY 26	1020	135	14.5	17.0	290
SEP. 07	1110	138	15.5	23.0	280
WATER YEAR 1973					
OCT. 18, 1972	1205	131	7.0	2.5	290
NOV. 22	1120	152	5.0	2.0	280
JAN. 04, 1973	1100	196	1.5	-2.0	260
FEB. 14	1150	165	1.5	-2.0	275
MAR. 21	1420	222	6.5	5.0	320
APR. 19	1320	210	13.5	21.5	340
MAY 25	1030	179	13.5	16.0	300
JULY 11	1050	144	16.0	20.5	280
AUG. 15	1120	130	15.0	22.0	295

04127000 BOARDMAN RIVER NEAR MAYFIELD, MICH.
(LAT 44°38'18", LONG 85°31'10")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 14, 1971	1005	150	10.5	13.0	280
NOV. 02	1210	231	9.5	9.0	300
DEC. 02	1425	183	2.5	-2.5	300
JAN. 03, 1972	1410	191	2.0	-2.5	260
FEB. 08	1345	186	1.0	-8.5	270
MAR. 16	1035	159	2.5	2.0	280
APR. 20	0920	430	5.0	6.5	225
JUNE 05	0925	181	15.5	15.0	290
JULY 17	0930	205	17.5	26.5	280
SEP. 07	1205	138	15.0	18.5	275
WATER YEAR 1973					
OCT. 10, 1972	1445	180	9.5	6.0	280
NOV. 14	1305	158	4.5	-1.0	290
DEC. 20	1320	154	1.0	-1.5	290
FEB. 07, 1973	0955	198	3.0	-5.0	280
MAR. 14	1235	346	5.0	10.0	280
APR. 10	1000	233	5.0	0.0	350
MAY 14	1225	209	11.0	8.5	360
JUNE 18	1240	173	17.5	23.0	300
JULY 23	1245	139	19.0	19.5	--
AUG. 13	0935	143	19.0	20.0	275

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04127800 JORDAN RIVER NEAR EAST JORDAN, MICH.
(LAT 45°06'09", LONG 85°05'53")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 14, 1971	1410	167	10.0	16.0	340
NOV. 03	1320	218	7.0	5.0	330
DEC. 01	1255	173	1.5	-1.0	350
JAN. 04, 1972	1315	186	2.0	-2.0	325
FEB. 09	1315	181	0.5	-7.5	340
MAR. 13	0925	170	3.0	-3.5	330
APR. 18	0945	293	5.5	16.5	280
JUNE 08	0935	171	13.0	18.5	330
JULY 17	1235	167	15.5	23.5	340
SEP. 05	0950	171	10.5	15.0	340
WATER YEAR 1973					
OCT. 10, 1972	1510	171	7.0	13.0	330
NOV. 15	1525	174	3.0	-1.0	335
DEC. 29	1005	180	2.0	-4.5	320
JAN. 16, 1973	0940	170	3.5	3.0	--
FEB. 07	1250	173	3.0	-5.0	338
MAR. 14	0950	221	5.5	7.0	310
APR. 12	0930	193	3.5	2.0	365
MAY 16	0940	182	8.5	2.0	350
JUNE 18	0900	192	12.5	18.5	330
JULY 25	0915	165	13.5	22.0	--
AUG. 20	1030	188	14.5	21.5	340

STREAMS TRIBUTARY TO LAKE HURON

04127918 PINE RIVER NEAR RUDYARD, MICH.
(LAT 46°11'09", LONG 84°35'52")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
MAY 09, 1972	1715	405	9.0	14.0	--
JUNE 13	1030	112	11.5	--	--
AUG. 02	1435	85	17.0	18.5	--
WATER YEAR 1973					
OCT. 10, 1972	1420	108	5.5	15.0	--
NOV. 28	1230	149	1.5	-1.0	--
JAN. 04, 1973	1500	112	0.0	--	--
FEB. 12	1600	87	0.0	-7.5	--
MAR. 27	1420	530	0.5	7.5	--
APR. 23	1535	774	7.0	6.5	--
MAY 02	1315	1,220	8.0	14.0	--
MAY 03	1030	893	8.5	8.0	--
MAY 29	1655	369	9.0	20.0	--
MAY 30	1255	257	12.0	21.0	--
AUG. 01	1715	426	16.5	18.5	--
SEP. 11	--	75	13.0	14.5	--

04128500 INDIAN RIVER AT INDIAN RIVER, MICH.
(LAT 45°24'38", LONG 84°37'12")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 12, 1971	1055	511	9.5	10.0	--
NOV. 08	1115	559	2.0	1.0	--
DEC. 13	1005	679	2.5	-2.0	--
JAN. 10, 1972	1145	767	1.0	-3.5	--
FEB. 07	1220	728	0.5	-12.0	--
MAR. 07	1400	671	0.5	1.0	--
APR. 25	0900	975	2.5	0.5	--
JUNE 06	1200	844	19.0	18.0	--
JULY 18	0915	586	20.5	20.0	--
SEP. 05	1315	650	19.5	17.0	--
WATER YEAR 1973					
OCT. 10, 1972	1100	663	6.5	10.5	--
NOV. 15	1150	707	4.5	-2.0	--
DEC. 28	1240	674	0.5	-4.0	--
FEB. 06, 1973	1245	800	1.0	-1.0	--
MAR. 13	0935	827	3.5	3.5	--
APR. 11	1250	808	4.5	3.0	--
MAY 15	1205	728	11.0	9.5	--
JUNE 19	0915	647	18.0	22.0	--
JULY 24	1240	509	22.0	30.0	--
AUG. 16	0915	613	22.5	19.5	--

04129000 PIGEON RIVER NEAR VANDERBILT, MICH.
(LAT 45°10'15", LONG 84°26'18")

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
WATER YEAR 1972					
OCT. 12, 1971	1030	65	9.0	8.0	--
NOV. 03	1045	152	5.0	2.5	--
DEC. 01	1015	83	0.5	-5.0	--
JAN. 04, 1972	1100	84	1.0	-4.5	--
FEB. 07	1055	64	0.0	-15.0	--
MAR. 07	1100	72	0.5	1.5	--
APR. 17	1020	195	3.5	7.0	--
JUNE 06	1025	68	17.5	16.0	--
JULY 31	1015	65	18.5	29.5	--
SEP. 05	1210	51	14.0	16.5	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04129000 PIGEON RIVER NEAR VANDERBILT, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 10, 1972	1010	68	7.0	8.5	--
NOV. 15	1010	70	1.5	-5.0	--
DEC. 28	1030	76	1.0	-4.0	--
FEB. 06, 1973	1055	60	2.0	-2.5	--
MAR. 13	1330	134	3.5	8.0	--
APR. 11	1125	82	2.5	2.0	--
MAY 15	1030	88	10.5	9.0	--
JUNE 19	1350	59	17.5	25.0	--
JULY 24	1000	44	17.0	22.5	--
AUG. 16	1050	68	19.0	23.0	--

04129500 PIGEON RIVER AT AFTON, MICH.
(LAT 45°22'26", LONG 84°30'54")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1971	1700	115	14.0	16.0	--
OCT. 12	1315	113	9.0	10.0	--
NOV. 08	1400	151	3.0	1.0	--
DEC. 13	1235	270	2.0	-2.0	--
JAN. 10, 1972	1300	182	0.5	2.0	--
MAR. 31	0800	139	1.0	-1.0	--
APR. 17	1515	601	3.5	10.0	--
MAY 09	0815	207	8.0	5.0	--
MAY 15	1500	543	11.0	15.0	--
JUNE 21	1230	123	15.5	22.0	--
AUG. 01	0925	118	18.5	21.0	--
SEP. 11	1130	105	12.5	19.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 18, 1972	1120	126	4.5	0.0	--
DEC. 04	1155	107	0.0	-7.5	--
JAN. 08, 1973	1225	110	0.0	-10.0	--
FEB. 20	1310	135	0.0	-2.5	--
MAR. 27	1130	164	4.5	6.0	--
APR. 23	1130	172	12.5	8.5	--
JUNE 04	1005	147	14.5	17.0	--
JULY 16	1035	87	17.0	21.0	--
AUG. 20	1050	119	19.5	18.5	--

04130000 CHEBOYGAN RIVER NEAR CHEBOYGAN, MICH.
(LAT 45°34'38", LONG 84°29'15")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 13, 1971	0900	530	12.0	9.5	--
DEC. 14	1000	871	1.5	-2.5	--
JAN. 11, 1972	0935	1,280	0.5	-7.5	--
MAR. 31	1140	1,070	0.5	1.0	--
MAY 08	1210	1,700	8.0	11.5	--
JUNE 21	1035	1,010	15.5	7.0	--
AUG. 02	1015	912	22.5	21.0	--
SEP. 12	0940	809	18.5	20.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1525	948	4.0	4.5	--
DEC. 05	0915	941	1.0	-3.0	--
JAN. 09, 1973	1010	1,040	0.5	-9.0	--
FEB. 21	1000	1,150	1.0	-5.0	--
MAR. 27	0835	1,340	4.5	0.0	--
APR. 24	0950	770	8.0	7.0	--
JUNE 05	0915	1,090	16.5	17.0	--
JULY 17	0730	801	21.5	16.0	--
AUG. 21	0900	964	17.5	16.0	--

04130500 BLACK RIVER NEAR TOWER, MICH.
(LAT 45°23'33", LONG 84°20'00"

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 13, 1971	1135	220	12.0	14.0	--
NOV. 08	1510	233	5.0	0.5	--
DEC. 13	1400	583	2.5	1.5	--
JAN. 10, 1972	1410	236	1.0	-2.0	--
MAR. 30	1145	237	1.0	2.0	--
MAY 09	1210	472	10.0	12.5	--
JUNE 20	1140	210	20.0	25.0	--
AUG. 01	1100	211	22.0	26.0	--
SEP. 11	1255	183	15.5	21.0	--

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04130500 BLACK RIVER NEAR TOWER, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1150	511	5.0	4.5	--
DEC. 04	1430	83	1.0	-4.0	--
JAN. 09, 1973	1255	7.5	0.5	-6.0	--
FEB. 21	1505	237	0.5	-4.5	--
MAR. 27	1520	529	6.0	11.0	--
APR. 23	1350	499	14.0	10.5	--
JUNE 04	1310	233	16.0	24.5	--
JULY 16	1245	194	21.5	25.0	--
AUG. 20	1235	196	20.5	19.5	--

04131500 RAINY RIVER NEAR OCQUEOC, MICH.
(LAT 45°24'30", LONG 84°10'45")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 31, 1971	1300	6.4	11.5	13.0	370
NOV. 09	1125	21	2.0	0.0	350
DEC. 13	1510	130	0.5	-2.0	260
JAN. 10, 1972	1515	43	0.0	-3.0	280
MAR. 30	0845	32	0.5	1.0	360
APR. 17	1355	443	3.0	10.0	--
MAY 09	0955	151	8.5	10.0	240
JUNE 20	0840	9.4	19.0	20.5	320
AUG. 01	1510	4.4	22.0	23.5	380
SEP. 12	1205	4.9	15.0	19.5	355

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 26, 1972	1240	85	5.0	14.0	295
DEC. 04	1330	29	0.0	-4.0	305
JAN. 09, 1973	1420	51	0.0	-6.0	280
FEB. 20	1450	20	0.0	-2.0	330
MAR. 28	0800	91	3.5	3.0	260
APR. 23	1520	88	13.5	10.5	--
JUNE 04	1120	43	15.5	21.0	290
JULY 17	1135	12	17.5	24.5	360
AUG. 20	1400	38	19.5	20.5	350

04132000 BLACK RIVER NEAR CHEBOYGAN, MICH.
(LAT 45°29'59", LONG 84°19'36")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1971	1425	359	11.0	12.5	--
NOV. 09	1015	835	5.0	0.0	--
DEC. 14	1220	689	2.5	-1.5	--
JAN. 11, 1972	1155	564	1.0	-5.0	--
MAR. 30	1415	432	1.5	1.0	--
MAY 08	1410	1,910	8.0	13.0	--
JUNE 20	1440	493	21.0	21.5	--
AUG. 01	1335	437	24.5	27.5	--
SEP. 11	1500	292	17.5	21.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 26, 1972	0845	330	5.5	9.0	--
DEC. 05	1225	510	1.0	-3.5	--
JAN. 08, 1973	1500	532	0.0	-9.0	--
FEB. 21	1245	547	0.5	-4.5	--
MAR. 27	1230	909	4.0	10.5	--
APR. 24	1240	718	9.0	10.0	--
JUNE 05	1215	512	16.5	19.5	--
AUG. 21	1255	380	21.5	18.5	--

04132500 THUNDER BAY RIVER NEAR HILLMAN, MICH.
(LAT 45°00'30", LONG 83°58'21")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 13, 1971	1440	165	12.0	13.0	--
NOV. 09	1515	193	3.5	1.0	--
DEC. 14	1520	387	2.5	-1.0	--
JAN. 11, 1972	1530	242	0.0	-4.0	--
MAR. 29	0950	224	1.0	3.5	--
MAY 09	1420	315	9.0	11.5	--
JUNE 19	1100	176	15.5	23.0	--
AUG. 02	1425	188	22.5	24.0	--
SEP. 13	0900	177	14.0	16.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1005	460	3.5	0.5	--
DEC. 05	1550	244	0.0	-2.0	--

04133500 THUNDER BAY RIVER NEAR BOLTON, MICH.
(LAT 45°07'40", LONG 83°38'30")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 14, 1971	0915	328	10.0	10.0	--
NOV. 10	0925	366	2.5	2.0	--
DEC. 15	1355	1,000	1.5	2.0	--

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04133500 THUNDER BAY RIVER NEAR BOLTON, MICH.--Continued

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 12, 1972	1045	475	0.0	-8.0	--
MAY 10	0950	525	10.0	11.0	--
JUNE 19	1320	367	19.5	29.0	--
AUG. 03	0930	331	19.5	17.5	--
SEP. 12	1600	396	17.5	19.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 24, 1972	1215	653	3.0	1.5	--
DEC. 06	1225	480	0.0	-4.0	--
JAN. 10, 1973	1450	396	0.0	-12.0	--
FEB. 22	1120	320	0.0	-4.0	--
MAR. 26	1045	1,070	4.0	5.5	--
APR. 25	1020	427	12.0	6.0	--
JUNE 06	0945	745	17.0	19.5	--
JULY 18	1000	264	20.5	23.0	--
AUG. 22	1030	413	19.5	19.0	--

04134000 NORTH BRANCH THUNDERBAY RIVER NEAR BOLTON, MICH.
(LAT 45°08'55",LONG 83°36'35")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 14, 1971	1000	29	11.0	10.5	--
NOV. 10	1055	57	3.0	3.5	--
DEC. 15	1100	391	1.5	1.0	--
JAN. 12, 1972	1140	109	0.0	-5.0	--
MAR. 29	1350	88	0.0	3.5	--
MAY 10	0910	256	9.5	11.5	--
JUNE 19	1505	38	20.5	28.5	--
AUG. 03	1115	33	20.0	19.5	--
SEP. 12	1430	34	16.5	18.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 24, 1972	1310	114	4.5	3.5	--
DEC. 06	1055	85	0.0	-5.0	--
JAN. 10, 1973	0950	202	0.0	-12.0	--
FEB. 22	1400	52	0.0	-2.5	--
MAR. 26	1335	404	2.0	5.5	--
APR. 25	0840	141	8.0	6.5	--
JUNE 06	1105	163	18.0	20.0	--
JULY 17	1600	30	23.0	29.0	--
AUG. 22	0900	69	18.0	14.0	--

04135600 EAST BRANCH AU SABLE RIVER AT GRAYLING, MICH.
(LAT 44°40'08", LONG 84°42"20")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 22, 1971	1150	42	13.0	21.0	--
NOV. 01	1535	45	7.0	9.5	--
DEC. 03	1430	46	2.5	1.5	--
JAN. 11, 1972	1145	50	1.0	-1.0	--
FEB. 10	1440	42	1.5	-4.5	--
MAR. 14	1430	34	2.0	-1.0	--
APR. 28	1025	44	8.0	12.5	--
JUNE 05	1510	47	15.0	21.0	--
JULY 20	1010	47	19.0	29.0	--
SEP. 14	1430	41	15.5	16.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 10, 1972	1140	42	6.0	10.5	--
NOV. 14	1125	47	3.5	-1.0	--
DEC. 29	1335	42	0.5	-4.0	--
FEB. 05, 1973	1110	56	1.0	-3.5	--
MAR. 12	1125	92	4.0	3.5	--
APR. 10	1445	60	3.0	-2.0	--
MAY 14	1415	50	9.5	10.0	--
MAY 21	0905	48	10.0	13.0	--
JUNE 18	1515	44	14.5	21.5	--
JULY 23	1520	36	17.0	23.0	--
AUG. 14	1130	37	15.5	19.5	--

04135700 SOUTH BRANCH AU SABLE RIVER NEAR LUZERNE, MICH.
(LAT 44°36'53",LONG 84°27'20")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 13, 1971	0950	138	8.0	9.5	--
NOV. 01	0900	141	6.0	3.5	--
DEC. 03	0915	183	1.0	-3.0	--

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04135700 SOUTH BRANCH AU SABLE RIVER NEAR LUZERNE, MICH.--Continued

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 11, 1972	1310	221	1.0	0.0	--
FEB. 10	0850	156	0.0	-14.5	--
MAR. 14	0855	155	0.0	-2.0	--
APR. 28	1210	482	9.5	14.5	--
JUNE 05	0825	155	13.0	18.0	--
JUNE 19	0945	145	13.5	21.0	--
JULY 17	1330	234	18.0	28.5	--
SEP. 14	0900	144	12.5	18.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 10, 1972	1300	158	7.5	10.0	--
NOV. 14	1305	247	3.0	-0.5	--
DEC. 29	0830	200	0.5	-4.0	--
FEB. 05, 1973	1330	304	0.5	-3.0	--
MAR. 12	1420	470	3.0	5.5	--
APR. 10	1345	345	2.5	0.0	--
MAY 14	0825	212	7.0	2.5	--
MAY 18	1300	201	9.0	15.0	--
JUNE 18	1315	214	14.5	21.0	--
JULY 23	0850	141	14.0	14.0	--
AUG. 14	1300	152	16.5	23.0	--

04136500 AU SABLE RIVER AT MIO, MICH.
(LAT 44°39'36", LONG 84°07"52")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 14, 1971	1205	898	11.0	12.0	--
NOV. 10	1400	969	5.0	4.0	--
DEC. 13	1030	1,180	3.0	-2.0	--
JAN. 10, 1972	1340	1,150	1.0	1.5	--
FEB. 22	1030	920	0.0	-10.0	--
MAY 09	1525	1,370	11.0	13.0	--
JUNE 20	1530	856	18.5	23.0	--
AUG. 03	1315	902	19.5	23.0	--
AUG. 23	1050	433	20.0	22.5	--
SEP. 05	1545	944	16.5	17.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 24, 1972	1540	1,820	5.5	1.5	--
DEC. 06	1340	977	0.5	-4.0	--
JAN. 10, 1973	1305	1,140	0.5	-10.0	--
FEB. 20	0955	1,120	2.0	-2.5	--
APR. 23	1210	1,210	14.0	12.0	--
JUNE 06	1105	1,230	15.5	19.0	--
JULY 16	1100	934	19.0	18.5	--
AUG. 20	1015	831	20.5	20.0	--

04138000 EAST BRANCH AU GRES RIVER AT McIVOR, MICH.
(LAT 44°13'57",LONG 83°42'03")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1971	1530	37	9.5	11.0	--
NOV. 09	1010	37	1.5	3.0	--
DEC. 14	0930	52	0.0	-2.0	--
JAN. 11, 1972	1525	40	0.0	-2.5	--
FEB. 23	1020	29	0.0	-4.0	--
MAR. 28	1615	65	3.5	4.0	--
MAY 08	1610	94	9.0	18.5	--
JUNE 19	1345	43	17.5	24.5	--
AUG. 01	1300	40	19.5	25.0	--
SEP. 06	1155	47	15.0	21.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1020	64	4.5	4.0	--
DEC. 04	1400	38	0.0	-5.0	--
JAN. 08, 1973	1430	58	0.0	-8.0	--
FEB. 21	1130	60	0.0	-1.0	--
MAR. 26	1435	127	7.5	10.0	--
APR. 24	1020	75	11.0	11.0	--
JUNE 12	1050	76	19.0	22.0	--
JULY 17	1150	43	15.5	27.0	--
AUG. 21	1145	48	15.5	19.5	--

04138500 AU GRES RIVER NEAR NATIONAL CITY, MICH.
(LAT 44°10'26",LONG 83°44'36")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1971	1635	22	10.5	11.0	--
NOV. 09	1200	25	1.0	1.5	--
DEC. 14	0820	25	0.0	-2.0	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04138500 AU GRES RIVER NEAR NATIONAL CITY, MICH.--Continued

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 11, 1972	1340	66	0.0	2.5	--
FEB. 23	0835	38	0.0	-7.0	--
APR. 18	1335	432	7.5	15.5	--
APR. 27	1615	218	9.5	16.0	--
MAY 08	1510	156	9.0	18.5	--
JUNE 19	1215	21	19.5	30.0	--
AUG. 01	1135	17	22.0	28.0	--
SEP. 06	1300	43	18.5	21.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1100	88	5.0	4.5	--
DEC. 04	1445	42	0.0	-5.0	--
JAN. 08, 1973	1335	112	0.0	-9.0	--
FEB. 21	1040	80	0.0	-1.0	--
MAR. 26	1320	270	7.0	9.0	--
APR. 24	1110	110	12.5	11.0	--
JUNE 12	1200	72	23.5	27.0	--
JULY 17	1315	24	22.0	27.0	--
AUG. 21	1055	26	19.0	17.5	--

04139000 HOUGHTON CREEK NEAR LUPTON, MICH.
(LAT 44°23'45", LONG 84°02'50")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 12, 1971	1030	39	7.5	--	385
NOV. 08	1200	34	2.0	--	365
DEC. 13	1255	59	2.0	--	380
JAN. 10, 1972	1005	40	1.0	--	380
FEB. 22	1345	49	0.0	--	365
MAY 08	1030	57	8.5	--	365
JUNE 21	1225	39	13.0	--	345
AUG. 02	1520	47	20.0	--	350
SEP. 05	1200	36	12.5	--	360

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 24, 1972	1250	131	5.5	3.0	--
DEC. 04	1010	43	0.5	-5.0	--

04140000 PRIOR CREEK NEAR SELKIRK, MICH.
(LAT 44°20'06", LONG 84°04'06")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 31, 1971	1455	8.0	9.0	11.0	400
NOV. 08	1405	9.1	1.0	3.0	410
DEC. 13	1500	24	0.5	-1.0	385
JAN. 10, 1972	1500	16	0.5	1.5	400
FEB. 01	1450	9.8	0.0	-4.0	420
MAR. 28	1055	38	0.5	1.0	350
MAY 09	1645	20	11.5	12.5	350
JUNE 07	0935	9.0	16.5	23.0	--
JUNE 21	0855	8.7	13.5	11.5	390
AUG. 02	1300	10	17.5	19.0	380
SEP. 05	1755	9.0	14.5	16.5	380

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 24, 1972	1100	75	5.0	1.5	--
DEC. 06	0920	13	0.5	-2.0	--

04141000 SOUTH BRANCH SHEPARDS CREEK NEAR SELKIRK, MICH.
(LAT 44°18'25", LONG 84°05'13")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 13, 1971	1220	.10	9.5	12.0	580
OCT. 14	0725	.10	8.5	10.5	--
NOV. 09	0755	1.3	1.0	-1.0	600
DEC. 15	1310	13	0.5	6.0	260
JAN. 12, 1972	1035	.19	0.0	-1.0	570
FEB. 01	1325	.13	0.0	-4.0	580
MAY 10	0900	.25	7.0	10.5	500
JUNE 07	1100	.06	15.5	27.0	--
JUNE 21	0720	.08	13.0	14.0	520
AUG. 02	1135	.23	16.5	15.0	490
SEP. 05	1850	.08	14.5	15.0	540

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04141000 SOUTH BRANCH SHEPARDS CREEK NEAR SELKIRK, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 24, 1972	0955	.02	5.5	2.0	530
DEC. 06	0820	.18	0.0	-2.0	560
JAN. 08, 1973	1000	.26	0.0	-19.0	420
FEB. 20	1325	.19	0.0	-1.5	480
MAR. 26	1000	.70	5.0	4.5	480
APR. 23	1005	.30	9.5	9.0	650
JUNE 04	1340	2.7	17.0	25.5	--
JULY 16	1510	.05	19.5	23.0	530

04143500 NORTH BRANCH KAWKAWLIN RIVER NEAR KAWKAWLIN, MICH.
(LAT 43°40'05", LONG 83°58'13")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 15, 1971	1105	10	1.5	3.5	--
JAN. 11, 1972	1045	9.8	0.0	-1.0	--
FEB. 16	1415	9.4	0.0	-5.0	--
APR. 18	1035	331	11.5	16.5	--
APR. 27	1035	105	9.5	5.0	--
MAY 09	0905	82	11.0	11.5	--
JUNE 20	0820	11	20.0	24.0	--
AUG. 01	1525	11	23.5	28.0	--
SEP. 06	1530	30	18.0	22.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1350	57	7.0	8.0	--
DEC. 05	0945	24	0.0	-4.0	--
JAN. 09, 1973	1345	194	0.0	-14.0	--
FEB. 21	1550	21	0.0	-3.0	--
MAR. 27	0940	272	6.5	1.5	--
APR. 24	1510	90	14.0	11.5	--
JUNE 11	1045	138	23.0	28.0	--
JULY 17	0750	3.7	20.0	17.0	--

04143900 SHIAWASSEE RIVER AT LINDEN, MICH.
(LAT 42°48'56", LONG 83°48'08")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 10, 1972	2110	59	0.0	--	--
FEB. 23	1200	25	0.0	--	--
APR. 10	1115	71	7.0	--	--
JULY 07	1235	27	22.5	--	--
AUG. 07	1105	27	21.0	--	--
SEP. 18	1745	60	23.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 24, 1972	1320	35	8.0	--	--
DEC. 04	1355	67	1.0	--	--
JAN. 22, 1973	1250	106	2.0	--	--
APR. 16	1150	113	10.5	--	--
MAY 29	1255	65	15.5	--	--
JULY 02	1210	57	24.0	--	--
AUG. 06	1130	20	24.0	--	--
SEP. 10	1030	8.6	16.0	--	--

04145000 SHIAWASSEE RIVER NEAR FERGUS, MICH.
(LAT 43°15'17", LONG 84°06'20")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 06, 1971	1225	189	0.0	--	--
JAN. 11, 1972	1200	--	0.0	--	--
FEB. 11	1140	134	0.0	--	--
FEB. 28	1335	--	0.0	--	--
MAR. 29	1130	983	4.0	--	--
JULY 14	1220	132	25.0	--	--
AUG. 11	1645	118	19.0	--	--
SEP. 22	1335	291	16.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 08, 1972	1245	--	0.0	--	--
JAN. 15, 1973	1410	--	0.0	--	--
JAN. 26	1335	972	1.0	--	--
APR. 20	1255	715	16.5	--	--
JUNE 05	1215	1,090	19.5	--	--
JULY 09	1515	279	28.0	--	--
SEP. 14	1335	57	19.0	--	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04146000 FARMERS CREEK NEAR LAPEER, MICH.
(LAT 43°02'41",LONG 83°20'14")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 01, 1971	1215	12	0.0	--	--
FEB. 24, 1972	1025	--	0.0	--	--
MAR. 28	1035	74	1.5	--	--
APR. 11	1420	31	10.5	--	--
MAY 15	1535	34	17.0	--	--
JULY 05	1225	9.5	17.0	--	--
SEP. 20	1425	7.1	19.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1005	36	6.0	--	--
DEC. 06	1350	--	0.5	--	--
JAN. 23, 1973	1325	78	0.5	--	--
APR. 18	1135	49	12.5	--	--
JULY 04	1850	48	23.5	--	--
AUG. 09	1000	9.2	24.0	--	--
SEP. 12	0830	2.1	15.0	--	--

04147500 FLINT RIVER NEAR OTISVILLE, MICH.
(LAT 43°06'40",LONG 83°31'10")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 07,1971	1050	3.8	0.0	--	--
FEB. 25, 1972	1125	145	2.0	--	--
APR. 12	1250	186	5.0	--	--
MAY 17	1440	204	16.0	--	--
JULY 12	1520	85	21.0	--	--
AUG. 09	1545	105	21.0	--	--
SEP. 21	1815	176	19.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 07, 1972	1720	586	0.5	--	--
JAN. 29, 1973	1615	793	1.0	--	--
APR. 19	1355	187	13.5	--	--
JUNE 04	1440	647	19.0	--	--
JULY 06	1145	350	22.5	--	--
AUG. 10	1150	153	23.0	--	--
SEP. 13	1155	86	20.0	--	--

04147990 BUTTERNUT CREEK NEAR GENESEE, MICH.
(LAT 43°08'09",LONG 83°35'57")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 08, 1971	1230	2.1	1.0	--	--
JAN. 13, 1972	1315	4.9	0.0	--	--
FEB. 25	1205	--	0.0	--	--
MAR. 28	1215	35	2.5	--	--
APR. 12	1440	19	9.5	--	--
MAY 17	1550	19	19.5	--	--
JULY 12	1615	3.0	23.0	--	--
AUG. 09	1635	4.1	16.5	--	--
SEP. 20	1210	8.0	16.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 27, 1972	1205	32	7.0	--	--
DEC. 14	1340	25	0.5	--	--
JAN. 10, 1973	1545	--	0.0	--	--
JAN. 29	1430	32	0.0	--	--
APR. 19	1600	31	17.0	--	--
JUNE 04	1615	38	19.0	--	--
JULY 06	1250	7.9	18.0	--	--
AUG. 10	1340	5.9	19.0	--	--
SEP. 13	1305	3.4	13.0	--	--

04148140 KEARSLEY CREEK NEAR DAVISON, MICH.
(LAT 43°02'01",LONG 83°34'53")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 01, 1971	1055	11	0.0	--	--
JAN. 13, 1972	1300	34	0.0	--	--
FEB. 24	0945	--	0.0	--	--
MAR. 28	1425	141	4.0	--	--
APR. 11	1540	57	10.0	--	--
MAY 16	1425	70	16.0	--	--
JULY 06	1340	11	18.0	--	--
AUG. 09	1415	13	17.0	--	--
SEP. 20	1040	27	17.0	--	--

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04148140 KEARSLEY CREEK NEAR DAVISON, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 26, 1972	1230	125	7.0	--	--
DEC. 06	1220	74	0.5	--	--
JAN. 10, 1973	0945	--	0.0	--	--
JAN. 24	1615	120	1.0	--	--
APR. 18	1000	79	11.5	--	--
MAY 31	1150	101	13.5	--	--
JULY 04	1740	90	23.0	--	--
AUG. 07	1120	16	22.0	--	--
SEP. 13	1040	7.6	14.0	--	--

04148160 GILKEY CREEK NEAR FLINT, MICH.
(LAT 43°01'27",LONG 83°37'32")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 02, 1971	1350	.07	0.0	--	--
JAN. 13, 1972	1620	1.7	0.0	--	--
FEB. 29	1145	.54	0.0	--	--
APR. 11	1655	2.7	14.5	--	--
MAY 17	0935	3.9	15.0	--	--
JULY 06	1515	.06	18.5	--	--
AUG. 09	1315	.21	16.5	---	--
SEP. 19	1255	4.0	18.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 26, 1972	1150	4.2	7.5	--	--
DEC. 14	1225	12	0.5	--	--
JAN. 11, 1973	1025	--	0.0	--	--
JAN. 23	1115	7.7	1.0	--	--
APR. 17	1440	3.3	14.0	--	--
MAY 31	1020	2.4	12.0	--	--
JULY 04	1550	.44	23.0	--	--
AUG. 07	1015	.11	20.0	--	--

04148200 SWARTZ CREEK NEAR HOLLY, MICH.
(LAT 42°49'39",LONG 83°37'42")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1971	1310	1.9	19.0	--	--
DEC. 03	1320	2.0	0.0	--	--
JAN. 10, 1972	1320	5.0	0.0	--	--
FEB. 23	1335	2.8	0.0	--	--
APR. 10	1315	8.2	8.0	--	--
MAY 15	1340	16.0	17.0	--	--
JULY 07	1435	5.4	20.5	--	--
AUG. 07	1305	2.7	18.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 24, 1972	1505	23	8.0	--	--
DEC. 04	1420	9.2	1.0	--	--
JAN. 22, 1973	1015	19	1.5	--	--
APR. 16	1325	14	12.0	--	--
MAY 29	1520	19	15.5	--	--
JULY 02	1335	5.8	25.0	--	--
AUG. 06	1330	2.0	24.0	--	--
SEP. 10	1130	.68	15.0	--	--

04148300 SWARTZ CREEK AT FLINT, MICH.
(LAT 42°59'16",LONG 83°43'57")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1971	1535	4.4	22.0	--	--
DEC. 02	1645	9.0	0.0	--	--
JAN. 18, 1972	1110	--	0.0	--	--
FEB. 17	1210	28	0.0	--	--
MAR. 30	1235	117	2.0	--	--
APR. 12	1000	65	7.0	--	--
MAY 16	1610	141	16.5	--	--
JULY 12	1100	14	25.0	--	--
AUG. 07	1515	16	19.0	--	--
SEP. 19	1030	56	18.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 26, 1972	1000	99	6.0	--	--
DEC. 05	1545	69	0.5	--	--
JAN. 11, 1973	0930	--	0.0	--	--
JAN. 22	1610	204	0.5	--	--
APR. 17	1300	133	11.5	--	--
JUNE 04	1050	187	18.5	--	--
JULY 04	1255	27	23.0	--	--
SEP. 13	0910	1.1	18.0	--	--

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS.

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04148440 THREAD CREEK NEAR FLINT, MICH.
(LAT 42°58'30",LONG 83°38'09")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1971	1635	5.5	18.0	--	--
DEC. 02	1455	5.4	0.0	--	--
JAN. 10, 1972	1535	20	0.0	--	--
FEB. 25	0950	--	0.0	--	--
MAR. 28	1610	34	5.0	--	--
APR. 12	1110	26	8.5	--	--
MAY 17	1035	30	16.0	--	--
JULY 12	1225	4.8	24.0	--	--
SEP. 19	1655	19	19.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 26, 1972	1055	58	6.0	--	--
DEC. 06	1125	52	0.5	--	--
JAN. 11, 1973	1005	--	0.0	--	--
JAN. 23	1025	71	0.5	--	--
APR. 17	1630	47	13.0	--	--
JUNE 04	1205	43	19.0	--	--
JULY 04	1445	20	23.5	--	--
AUG. 07	0930	4.7	22.0	--	--
SEP. 10	1320	1.5	16.0	--	--

04148500 FLINT RIVER NEAR FLINT, MICH.
(LAT 43°02'20",LONG 83°46'10")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1971	1145	481	18.0	--	--
JAN. 18, 1972	1030	277	8.0	--	--
FEB. 25	1515	289	7.0	--	--
JULY 13	1010	180	21.0	--	--
AUG. 09	1015	240	19.0	--	--
SEP. 19	1525	666	21.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 30, 1972	1305	934	9.0	--	--
DEC. 14	1100	1,060	2.0	--	--
APR. 17, 1973	1050	812	10.5	--	--
JULY 03	1405	849	23.5	--	--
SEP. 14	0955	150	20.0	--	--

04148720 BRENT RUN NEAR MONTROSE, MICH.
(LAT 43°10'12",LONG 83°50'03")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 08, 1971	1335	4.8	4.0	--	--
JAN. 11, 1972	1425	--	0.0	--	--
FEB. 17	1020	--	0.0	--	--
FEB. 25	1330	---	0.0	--	--
MAR. 30	1050	12	3.0	--	--
APR. 12	1610	9.0	11.5	--	--
MAY 17	1655	12	19.0	--	--
JULY 13	1140	4.1	22.0	--	--
AUG. 11	1010	5.1	15.0	--	--
SEP. 22	1545	6.5	14.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 27, 1972	1100	8.5	7.0	--	--
DEC. 14	1455	28	0.0	--	--
JAN. 12, 1973	1035	--	0.0	--	--
JAN. 29	1205	11	0.0	--	--
APR. 19	1725	14	16.5	--	--
JUNE 05	1705	20	20.5	--	--
JULY 06	1430	4.9	23.0	--	--
SEP. 13	1430	4.7	16.0	--	--

04149000 FLINT RIVER NEAR FOSTERS, MICH.
(LAT 43°18'30",LONG 83°57'13")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
FEB. 10, 1972	1535	290	0.0	--	--
FEB. 28	1425	--	0.0	--	--
MAR. 29	1505	2,090	2.5	--	--
MAY 18	1145	697	19.0	--	--
JULY 13	1400	196	24.5	--	--
AUG. 11	1205	249	19.0	--	--
SEP. 22	1020	434	17.0	--	--

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04149000 FLINT RIVER NEAR FOSTERS, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 31, 1972	1300	1,050	7.0	--	--
JAN. 12, 1973	0800	--	0.0	--	--
JAN. 15	1245	--	0.0	--	--
APR. 20	0955	809	16.0	--	--
JUNE 05	1515	1,800	20.0	--	--
JULY 09	1230	610	26.5	--	--
SEP. 14	1145	179	18.0	--	--

04150000 SOUTH BRANCH CASS RIVER NEAR CASS CITY, MICH.
(LAT 43°34'01",LONG 83°06'43")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 06, 1971	0815	4.5	17.0	8.5	--
NOV. 02	1510	6.7	13.0	10.0	--
DEC. 07	1530	11	2.0	6.0	--
JAN. 11, 1972	1040	24	0.0	-3.0	--
FEB. 15	1055	22	0.0	2.0	--
APR. 26	1610	109	10.0	11.0	--
MAY 02	0945	96	13.5	18.0	--
JUNE 12	1455	12	17.0	13.5	--
AUG. 02	1010	8.4	22.5	18.0	--
SEP. 05	1240	12	20.0	17.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 17, 1972	1510	5.0	7.5	4.0	--
NOV. 22	0840	24	2.5	-2.5	--
FEB. 13, 1973	1015	45	0.0	-9.0	--
APR. 17	1255	156	10.5	12.5	--
MAY 22	1210	52	20.0	23.0	--
JULY 11	1015	24	22.5	18.5	--
AUG. 15	0830	13	20.0	18.0	--

04150500 CASS RIVER AT CASS CITY, MICH.
(LAT 43°35'03",LONG 83°10'34")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 06, 1971	0715	5.8	14.0	8.0	--
NOV. 02	1410	11	12.0	9.5	--
DEC. 07	1405	24	0.0	6.0	--
JAN. 04, 1972	0905	64	0.0	-4.0	--
FEB. 15	0910	50	0.0	0.0	--
MAY 02	0820	169	14.0	16.0	--
JUNE 12	1340	18	16.5	13.0	--
AUG. 02	1125	14	22.5	18.0	--
SEP. 05	1350	15	19.0	20.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 17, 1972	1410	8.4	8.0	7.0	--
NOV. 22	0955	39	12.0	-2.0	--
JAN. 03, 1973	1310	2,440	0.0	-2.5	--
FEB. 13	1145	89	0.0	-4.0	--
MAR. 20	1400	441	2.5	2.0	--
APR. 17	1415	310	11.5	12.5	--
MAY 22	1015	100	17.0	19.0	--
JULY 11	0900	41	22.0	17.0	--
AUG. 15	0955	17	20.5	18.0	--

04150800 CASS RIVER AT WAHJAMEGA, MICH.
(LAT 43°27'02",LONG 83°26'29")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1971	1340	26	17.5	20.5	--
NOV. 03	0835	43	10.5	4.0	--
DEC. 08	0840	74	4.0	3.0	--
JAN. 04, 1972	1500	146	1.5	-3.5	--
FEB. 15	1520	112	2.5	-1.0	--
MAR. 20	1505	1,980	1.0	9.0	--
APR. 27	0745	476	8.0	3.0	--
MAY 02	1350	400	15.5	21.0	--
JUNE 13	0825	66	17.5	16.5	--
AUG. 02	0810	106	18.5	23.0	--
SEP. 05	1535	52	21.5	24.0	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04150800 CASS RIVER AT WAHJAMEGA, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 18, 1972	0810	35	6.5	-3.0	--
NOV. 22	1315	131	4.0	0.5	--
JAN. 03, 1973	1555	4,180	0.0	1.0	--
FEB. 13	1505	203	0.5	0.0	--
MAR. 20	1510	1,040	3.0	-1.5	--
APR. 18	0850	615	11.0	11.0	--
MAY 22	1615	259	18.0	21.0	--
JULY 10	1520	128	27.0	24.5	--
AUG. 14	1530	53	24.5	27.0	--
AUG. 15	1300	55	25.0	21.0	--

04151500 CASS RIVER AT FRANKENMUTH, MICH.
(LAT 43°19'40", LONG 83°44'53")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1971	1555	42	20.5	19.5	--
NOV. 03	1020	63	12.5	6.5	--
DEC. 08	1035	112	0.5	4.0	--
JAN. 03, 1972	1530	246	0.0	0.5	--
FEB. 14	1600	130	0.0	4.5	--
MAY 01	1625	410	14.5	14.5	--
JUNE 13	1050	101	19.5	17.0	--
AUG. 01	1600	70	26.5	24.0	--
SEP. 06	0825	110	19.5	16.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 18, 1972	1030	65	9.0	3.0	--
NOV. 21	1530	226	3.5	4.0	--
JAN. 04, 1973	1200	6,960	0.0	0.0	--
FEB. 14	0830	290	0.0	-3.0	--
MAR. 20	0855	1,500	1.5	-0.5	--
APR. 17	1030	926	9.5	8.0	--
MAY 23	0850	338	17.5	19.0	--
JULY 10	1310	179	27.0	26.0	--
AUG. 14	1335	89	27.5	25.0	--

04152500 TOBACCO RIVER AT BEAVERTON, MICH.
(LAT 43°52'43", LONG 84°28'18")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1971	0725	209	17.5	7.5	--
NOV. 02	0739	207	12.0	11.0	--
DEC. 06	1555	225	1.0	2.0	--
JAN. 05, 1972	1335	258	0.0	-9.0	--
FEB. 16	1130	227	0.0	-5.0	--
MAR. 21	1300	363	0.5	11.0	--
MAY 09	1115	259	13.0	11.0	--
JUNE 20	1130	207	20.5	24.0	--
AUG. 03	0950	171	22.0	21.0	--
SEP. 07	1035	256	18.5	20.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 26, 1972	0935	433	6.5	6.0	--
DEC. 06	1335	246	1.0	-1.5	--
JAN. 09, 1973	1615	344	0.5	-14.0	--
FEB. 20	1525	321	0.5	-2.0	--
MAR. 21	0845	685	2.5	-0.5	--
MAR. 27	1600	551	7.0	8.5	--
APR. 18	1210	682	10.5	13.0	--
JUNE 13	1055	279	24.0	19.0	--
JULY 18	1050	224	22.5	23.0	--
AUG. 22	1230	191	18.5	18.5	--

04154000 CHIPPEWA RIVER NEAR MOUNT PLEASANT, MICH.
(LAT 43°37'32", LONG 84°42'28")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 197.	1045	179	17.5	15.5	--
NOV. 01	1010	147	10.0	6.0	--
DEC. 06	1015	181	1.5	1.5	--
JAN. 03, 1972	1005	253	0.0	-4.0	--
FEB. 14	1225	190	0.0	2.0	--
MAR. 20	1020	308	3.0	3.0	--
MAY 01	1030	365	12.5	15.5	--
JUNE 13	1510	143	18.0	21.0	--
JULY 31	1025	130	22.5	25.0	--
SEP. 06	1315	398	19.5	23.0	--

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04154000 CHIPPEWA RIVER NEAR MT. PLEASANT, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 16, 1972	1015	293	10.0	10.5	--
NOV. 20	1025	377	3.5	2.0	--
JAN. 02, 1973	1030	726	0.0	-5.0	--
FEB. 12	1005	290	0.0	-10.0	--
MAR. 19	0950	925	2.5	2.0	--
APR. 16	1030	561	9.5	8.5	--
MAY 21	1130	378	15.0	20.0	--
JULY 09	1025	297	24.0	25.0	--
JULY 18	1250	196	22.5	24.5	--
AUG. 13	1030	250	22.0	23.0	--
AUG. 22	1445	210	20.5	19.0	--

04154500 CHIPPEWA RIVER NEAR MIDLAND, MICH.
(LAT 43°35'40", LONG 84°22'10")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1971	1340	180	20.0	18.0	--
NOV. 01	1400	146	11.0	7.0	--
DEC. 06	1445	217	0.5	3.5	--
FEB. 14, 1972	1345	229	0.0	2.5	--
MAY 01	1420	493	15.0	17.5	--
JUNE 14	0810	182	19.0	21.5	--
AUG. 31	1535	165	26.5	26.0	--
SEP. 06	1445	503	20.0	23.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 16, 1972	1455	367	12.0	17.0	--
NOV. 20	1605	471	4.0	4.0	--

04155000 PINE RIVER AT ALMA, MICH.
(LAT 43°22'46", LONG 84°39'20")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1971	1120	92	19.5	22.0	--
NOV. 01	1130	97	12.5	8.0	--
DEC. 06	1130	126	0.5	2.5	--
JAN. 03, 1972	1245	300	0.0	-4.0	--
FEB. 14	1040	126	0.0	0.0	--
MAR. 20	1105	543	1.0	2.0	--
MAY 01	1230	278	15.5	19.0	--
JUNE 13	1310	91	18.0	18.5	--
JULY 31	1210	85	23.5	26.0	--
AUG. 21	1020	169	23.0	24.0	--
SEP. 06	1130	218	18.0	21.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 16, 1972	1145	123	9.5	12.5	--
NOV. 20	1220	217	3.5	6.0	--
JAN. 02, 1973	1300	704	0.0	-3.5	--
FEB. 12	1130	179	0.5	-4.5	--
MAR. 19	1120	685	2.0	1.5	--
APR. 16	1200	586	11.0	12.0	--
MAY 21	1350	285	16.5	22.0	--
JULY 09	1230	146	25.5	29.0	--
JULY 18	1400	115	24.5	25.0	--
AUG. 13	1255	155	23.0	22.0	--

04155500 PINE RIVER NEAR MIDLAND, MICH.
(LAT 43°33'52", LONG 84°22'09")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1971	1235	867	21.0	16.0	--
NOV. 01	1305	120	11.0	8.5	--
DEC. 06	1350	222	0.0	3.5	--
APR. 17, 1972	1220	1,410	18.0	7.5	--
MAY 01	1335	328	16.5	16.5	--
JUNE 14	1210	66	22.5	26.5	--
JULY 31	1425	116	26.0	27.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 16, 1972	1350	87	11.5	15.5	--
NOV. 20	1525	254	3.5	4.0	--
JAN. 02, 1973	1500	1,620	0.0	-2.0	--
FEB. 12	1315	126	0.0	-4.0	--
MAR. 19	1320	780	1.5	2.0	--
APR. 16	1215	677	11.5	16.0	--
MAY 21	1540	341	17.5	22.0	--
JULY 09	1440	232	27.0	28.5	--
AUG. 13	1505	172	26.5	27.0	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE HURON.--Continued

04156000 TITTABAWASSEE RIVER AT MIDLAND, MICH.
(LAT 43°35'43", LONG 84°14'08")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1971	1000	298	23.5	12.5	--
NOV. 02	0935	356	16.0	11.5	--
DEC. 07	0940	515	5.0	1.5	--
JAN. 05, 1972	1010	582	2.5	-11.0	--
FEB. 16	0945	512	4.5	-6.5	--
MAR. 21	0900	2,550	2.0	4.5	--
MAY 03	0825	4,530	12.5	9.0	--
JUNE 02	0850	536	21.0	21.5	--
JUNE 14	0955	335	24.0	24.0	--
AUG. 01	0950	306	31.0	24.0	--
SEP. 07	0940	1,020	22.5	20.5	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 17, 1972	0920	466	13.0	2.0	--
NOV. 21	1000	1,110	7.5	2.0	--
FEB. 14, 1973	1030	1,040	3.0	-2.5	--
FEB. 22	1025	1,080	2.0	-8.5	--
MAR. 19	1410	5,080	4.0	4.5	--
APR. 03	1500	8,010	8.5	6.5	--
APR. 16	1555	3,470	13.0	16.5	--
MAY 24	1000	974	17.0	17.0	--
JULY 10	0910	605	26.0	22.5	--
AUG. 14	1020	462	26.5	22.0	--

04158500 PIGEON RIVER NEAR OWENDALE, MICH.
(LAT 43°45'49", LONG 83°14'46")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 06, 1971	0855	1.9	14.0	11.5	--
NOV. 02	1225	3.6	11.5	10.0	--
DEC. 07	1210	11	0.0	4.5	--
JAN. 04, 1972	1220	15	0.0	-1.5	--
FEB. 15	1220	12	0.0	1.0	--
APR. 17	1635	115	8.0	11.5	--
APR. 26	1755	36	11.5	8.5	--
MAY 02	1115	64	14.0	17.0	--
JUNE 12	1140	5.2	15.0	11.0	--
AUG. 02	1315	6.7	22.0	19.0	--
SEP. 05	1115	6.0	17.0	10.0	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 17, 1972	1210	3.2	8.0	4.5	--
NOV. 22	1115	13	2.5	-0.5	--
FEB. 13, 1973	1325	20	0.0	-2.0	--
MAR. 20	1125	81	1.0	-1.0	--
APR. 17	1520	56	11.0	13.0	--
MAY 22	1440	19	19.0	27.0	--
JULY 11	1220	8.2	20.0	18.5	--
AUG. 15	1120	4.7	22.5	21.0	--

STREAMS TRIBUTARY TO ST. CLAIR RIVER

04159900 MILL CREEK NEAR AVOCA, MICH.
(LAT 43°03'16", LONG 82°44'05")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 01, 1971	1420	8.4	0.0	--	--
JAN. 12, 1972	1520	23	0.0	--	--
FEB. 24	1545	--	0.0	--	--
MAR. 22	1205	537	0.5	--	--
APR. 11	1055	52	8.0	--	--
MAY 16	1100	63	16.0	--	--
JULY 06	1100	8.9	18.0	--	--
SEP. 21	1120	6.4	18.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1420	65	8.0	--	--
DEC. 07	1415	56	0.0	--	--
APR. 18	1710	82	15.5	--	--
JUNE 01	1240	79	19.5	--	--
JULY 03	1320	36	24.0	--	--
AUG. 09	1455	24	27.0	--	--
SEP. 12	1120	4.4	16.0	--	-

STREAMS TRIBUTARY TO ST. CLAIR RIVER.--Continued

04160570 NORTH BRANCH BELLE RIVER AT IMLAY CITY, MICH.
(LAT 43°01'49", LONG 83°04'02")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 04, 1971	1050	1.4	6.0	--	--
DEC. 02	1020	2.4	0.0	--	--
JAN. 13, 1972	1035	4.3	0.0	--	--
FEB. 24	1320	3.7	0.0	--	--
APR. 10	1600	8.3	11.0	--	--
MAY 15	1655	8.6	17.5	--	--
JULY 05	1505	1.5	17.0	--	--
SEP. 20	1635	2.8	18.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1115	20	6.0	--	--
DEC. 06	1600	17	0.0	--	--
JAN. 23, 1973	1440	40	0.5	--	--
APR. 18	1350	12	15.5	--	--
MAY 31	1655	16	20.0	--	--
JULY 05	1625	5.3	23.5	--	--
AUG. 09	1230	1.9	26.0	--	--
SEP. 12	1000	.60	13.0	--	--

04160600 BELLE RIVER AT MEMPHIS, MICH.
(LAT 42°54'03", LONG 82°46'09")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 02, 1971	1210	16	0.0	--	--
JAN. 12, 1972	1615	38	0.0	--	--
FEB. 24	1455	36	0.0	--	--
APR. 11	1225	50	9.5	--	--
MAY 16	1210	113	16.5	--	--
JULY 05	1630	13	20.0	--	--
SEP. 20	1800	15	19.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 25, 1972	1255	255	8.0	--	--
DEC. 06	1710	136	0.0	--	--
JAN. 10, 1973	1140	--	0.0	--	--
JAN. 23	1710	401	1.5	--	--
APR. 18	1515	80	15.0	--	--
JUNE 01	1455	103	18.5	--	--
JULY 05	1430	34	23.5	--	--
AUG. 09	1340	13	27.0	--	--
SEP. 12	1115	6.4	16.0	--	--

STREAMS TRIBUTARY TO LAKE ST. CLAIR

04160800 SASHABAW CREEK NEAR DRAYTON PLAINS, MICH.
(LAT 42°43'12", LONG 83°21'13")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
FEB. 10, 1972	1610	--	0.0	--	--
FEB. 17	1355	3.2	0.0	--	--
MAR. 27	1415	16	6.5	--	--
JULY 17	1835	5.5	22.0	--	--
AUG. 23	1615	4.9	25.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1625	2.9	16.0	--	--
NOV. 09	1715	18	6.0	--	--
DEC. 21	1510	19	0.5	--	--
MAR. 20, 1973	1150	48	2.5	--	--
APR. 27	1205	21	10.5	--	--
JUNE 06	0915	46	19.0	--	--
JULY 17	1450	5.3	24.5	--	--
AUG. 20	1320	4.3	25.0	--	--
SEP. 18	1140	4.5	13.0	--	--

04161000 CLINTON RIVER AT AUBURN HEIGHTS, MICH.
(LAT 42°38'00", LONG 83°13'28")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
MAR. 27, 1972	1110	136	5.0	--	--
MAY 01	1530	179	16.0	--	--
JULY 17	1315	56	26.0	--	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE ST. CLAIR.--Continued

04161000 'CLINTON RIVER AT AUBURN HEIGHTS, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1400	82	19.0	--	--
NOV. 09	1145	160	9.0	--	--
DEC. 21	1110	179	3.0	--	--
MAR. 23, 1973	0930	276	4.5	--	--
APR. 27	0915	169	11.5	--	--
JUNE 06	1330	251	21.0	--	--
JULY 20	1000	112	24.0	--	--
SEP. 18	1315	61	17.0	--	--

04161100 GALLOWAY CREEK NEAR AUBURN HEIGHTS, MICH.
(LAT 42°40'02",LONG 83°12'02")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
FEB. 02, 1972	1100	4.4	0.0	--	--
MAR. 27	1235	14	3.5	--	--
MAY 01	1435	11	16.5	--	--
JULY 17	1125	4.0	20.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1300	2.7	15.0	--	--
NOV. 09	1300	25	6.0	--	--
DEC. 21	1215	22	0.0	--	--
JAN. 09, 1973	1150	--	0.0	--	--
MAR. 23	1045	45	2.0	--	--
APR. 26	1335	12	14.5	--	--
JULY 06	1520	12	23.0	--	--
SEP. 18	1440	1.8	14.0	--	--

04161500 PAINT CREEK NEAR LAKE ORION, MICH.
(LAT 42°46'03",LONG 83°13'12")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
MAR. 17, 1972	1410	46	3.5	--	--
MAY 01	1300	43	14.0	--	--
JULY 19	1525	18	26.0	--	--
AUG. 23	1000	17	23.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1515	8.8	16.0	--	--
NOV. 09	1550	30	7.0	--	--
DEC. 20	1545	32	1.0	--	--
MAR. 20, 1973	1255	94	4.5	--	--
APR. 26	1540	40	15.0	--	--
JUNE 06	1045	61	20.0	--	--
SEP. 20	1505	44	17.0	--	--

04161540 PAINT CREEK AT ROCHESTER, MICH.
(LAT 42°41'18",LONG 83°08'35")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
FEB. 02, 1972	0900	41	0.0	--	--
MAR. 17	0900	126	2,0	--	--
JULY 19	1420	42	23.0	--	--
AUG. 23	0855	96	20.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1205	20	15.0	--	--
NOV. 09	1445	66	6.5	--	--
DEC. 21	1340	67	2.5	--	--
MAR. 20, 1973	1645	177	4.0	--	--
APR. 27	1100	70	10.0	--	--
JUNE 06	1200	151	19.0	--	--
JULY 18	1240	35	20.5	--	--
SEP. 20	1015	54	15.0	--	--

04161580 STONY CREEK NEAR ROMEO, MICH.
(LAT 42°48'03", LONG 83°05'25")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 24, 1972	1300	8.3	0.0	--	--
MAR. 17	1225	44	1.0	--	--
APR. 26	1110	37	7.5	--	--
JULY 20	0935	15	23.0	--	--
AUG. 21	1325	3.8	23.0	--	--

STREAMS TRIBUTARY TO LAKE ST. CLAIR.--Continued

04161580 STONY CREEK NEAR ROMEO, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 02, 1972	1110	5.9	12.0	--	--
NOV. 06	1145	1.7	5.5	--	--
DEC. 20	1440	26	0.0	--	--
JAN. 09, 1973	1430	--	0.0	--	--
MAR. 21	0935	63	0.5	--	--
APR. 24	1200	30	10.5	--	--
JULY 18	1825	4.8	25.0	--	--
SEP. 19	1925	6.2	15.0	--	--

04161800 STONY CREEK NEAR WASHINGTON, MICH.
(LAT 42°42'55",LONG 83°05'31")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
MAR. 17, 1972	1105	56	3.0	--	--
JULY 19	1150	33	24.0	--	--
AUG. 22	1000	41	21.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1035	19	14.5	--	--
NOV. 07	1510	53	6.5	--	--
DEC. 20	1310	65	4.0	--	--
MAR. 20, 1973	1550	140	4.0	--	--
APR. 26	1705	74	15.0	--	--
JUNE 05	1510	82	19.0	--	--
JULY 18	1515	21	25.5	--	--
SEP. 20	1225	20	16.5	--	--

04162900 BIG BEAVER CREEK NEAR WARREN, MICH.
(LAT 42°32'31",LONG 83°02'52")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
FEB. 03, 1972	1335	3.5	0.0	--	--
MAR. 15	1510	53	0.5	--	--
AUG. 01	1145	1.8	23.0	--	--
AUG. 22	1850	50	24.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 03, 1972	1740	4.3	16.0	--	--
NOV. 07	1155	11	7.5	--	--
DEC. 19	1615	24	0.5	--	--
JAN. 10, 1973	1320	--	0.0	--	--
MAR. 22	1630	63	4.0	--	--
APR. 26	1000	10	11.0	--	--
JUNE 04	1125	80	18.0	--	--
JULY 20	1140	2.6	23.5	--	--
SEP. 18	1705	10	15.0	--	--

04163400 PLUM BROOK AT UTICA, MICH.
(LAT 42°36'95",LONG 83°04'27")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
FEB. 04, 1972	1450	1.9	0.0	--	--
MAR. 15	1645	4.3	0.0	--	--
AUG. 01	1040	.69	21.0	--	--
AUG. 24	1135	43	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	0930	3.4	15.0	--	--
NOV. 07	1310	11	8.0	--	--
DEC. 20	0915	19	0.5	--	--
JAN. 10, 1973	1300	--	0.0	--	--
MAR. 23	1155	47	3.0	--	--
APR. 26	1125	9.0	11.0	--	--
JUNE 04	1040	27	17.0	--	--
JULY 20	1310	3.8	22.0	--	--
SEP. 18	1555	2.2	14.0	--	--

04164000 CLINTON RIVER NEAR FRASER, MICH.
(LAT 42°34'40", LONG 82°57'00")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
FEB. 03, 1972	1510	317	3.5	--	--

STREAMS TRIBUTARY TO LAKE ST. CLAIR.--Continued

04164000 CLINTON RIVER NEAR FRASER, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 03, 1972	1610	218	17.0	--	--
NOV. 07	1035	--	8.5	--	--
DEC. 19	1455	486	1.0	--	--
MAR. 22, 1973	1515	1,080	4.0	--	--
APR. 25	1435	570	13.0	--	--
JUNE 04	1315	782	18.0	--	--
JULY 19	1630	287	26.0	--	--
SEP. 18	1845	271	18.0	--	--

04164100 EAST POND CREEK AT ROMEO, MICH.
(LAT 42°49'21", LONG 83°01'13")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 24, 1972	1155	22	0.0	--	--
MAR. 20	1405	33	3.0	--	--
JULY 20	1025	16	24.0	--	--
AUG. 21	1425	5.6	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 02, 1972	1206	6.6	13.0	--	--
NOV. 06	1255	19	6.0	--	--
DEC. 18	1400	29	0.0	--	--
JAN. 09, 1973	1455	--	0.0	--	--
MAR. 21	1030	56	2.0	--	--
APR. 24	1325	26	12.0	--	--
JUNE 05	1225	28	19.0	--	--
JULY 16	1335	9.1	20.0	--	--
SEP. 19	1840	6.2	14.5	--	--

04164150 NORTH BRANCH CLINTON RIVER NEAR MEADE, MICH.
(LAT 42°43'50", LONG 82°54'23")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 24, 1972	1615	--	0.0	--	--
FEB. 04	1145	26	0.0	--	--
MAR. 21	1105	167	2.0	--	--
AUG. 22	1505	11	25.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 03, 1972	1050	18	14.0	--	--
NOV. 06	1605	--	7.5	--	--
JAN. 10, 1973	1310	--	0.0	--	--
MAR. 16	1005	411	8.5	--	--

04164300 EAST BRANCH COON CREEK AT ARMADA, MICH.
(LAT 42°50'45", LONG 82°53'06")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 24, 1972	1345	--	0.0	--	--
FEB. 04	0840	--	0.0	--	--
MAR. 20	1600	22	1.0	--	--
JULY 20	1210	3.9	26.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 02, 1972	1330	.37	14.0	--	--
NOV. 06	1400	--	7.5	--	--
DEC. 18	1605	7.4	0.0	--	--
JAN. 09, 1973	1605	--	0.0	--	--
MAR. 21	1205	33	1.0	--	--
APR. 24	1535	3.2	12.0	--	--
JULY 16	1620	.54	25.5	--	--
SEP. 19	1655	--	15.0	--	--

04164360 EAST BRANCH COON CREEK NEAR NEW HAVEN, MICH.
(LAT 42°45'46", LONG 82°50'57")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 24, 1972	1515	--	0.0	--	--
FEB. 04	1040	2.8	0.0	--	--
MAR. 21	1240	51	1.0	--	--
JULY 20	1420	4.5	28.0	--	--
AUG. 21	1700	.20	24.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 02, 1972	1455	.92	15.0	--	--
NOV. 06	1530	--	8.0	--	--
JAN. 10, 1973	1000	--	0.0	--	--
MAR. 16	1205	98	8.5	--	--

STREAMS TRIBUTARY TO LAKE ST. CLAIR.--Continued

04164500 NORTH BRANCH CLINTON RIVER NEAR MOUNT CLEMENS, MICH.
(LAT 42°37'45", LONG 82°53'25")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 25, 1972	1045	--	0.0	--	--
JAN. 27	1400	108	0.0	--	--
AUG. 22	0845	14	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 03, 1972	1210	24	14.0	--	--
NOV. 07	1000	--	8.5	--	--
DEC. 19	1200	184	0.0	--	--
MAR. 22, 1973	1230	633	3.0	--	--
APR. 25	1200	139	12.0	--	--
JULY 19	1030	22	22.0	--	--
SEP. 19	1215	20	14.0	--	--

04164800 MIDDLE BRANCH CLINTON RIVER AT MACOMB, MICH.
(LAT 42°42'23", LONG 82°57'33")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
JAN. 24, 1972	1710	--	0.0	--	--
FEB. 04	1240	8.5	0.0	--	--
MAR. 21	1000	30	3.0	--	--
AUG. 22	1410	6.6	24.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 02, 1972	1630	7.2	14.0	--	--
NOV. 06	1735	23	7.5	--	--
DEC. 20	1135	50	0.0	--	--
JAN. 10, 1973	1055	--	0.0	--	--
MAR. 21	1520	116	3.0	--	--
APR. 25	0950	29	8.5	--	--
JULY 17	1250	7.8	20.5	--	--
SEP. 19	1415	4.9	14.5	--	--

04165500 CLINTON RIVER AT MOUNT CLEMENS, MICH.
(LAT 42°35'45", LONG 82°54'35")

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 07, 1972	0910	596	8.5	--	--
DEC. 19	1005	786	2.0	--	--
MAR. 22, 1973	1005	2,080	3.0	--	--
APR. 25	1635	785	13.5	--	--
JUNE 05	0910	1,210	20.0	--	--
JULY 19	1440	318	25.5	--	--

STREAMS TRIBUTARY TO DETROIT RIVER.

04166000 RIVER ROUGE AT BIRMINGHAM, MICH.
(LAT 42°32'45", LONG 83°13'25")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
MAR. 17, 1972	0805	43	1.5	--	--
APR. 26	0740	19	6.5	--	--
JULY 20	0825	13	24.5	--	--
AUG. 24	0855	40	22.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1972	1555	8.7	17.0	--	--
DEC. 20	0855	36	1.0	--	--
FEB. 07, 1973	0840	21	3.0	--	--
MAR. 20	1740	84	3.5	--	--
APR. 25	0835	22	12.0	--	--
JUNE 06	1625	--	20.0	--	--
JULY 16	1220	20	22.0	--	--
AUG. 14	1215	13	22.0	--	--

04166100 RIVER ROUGE AT SOUTHFIELD, MICH
(LAT 42°26'52", LONG 83°17'52")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 19, 1971	1110	12	9.5	--	--
FEB. 03, 1972	1050	17	0.0	--	--
MAR. 17	0945	128	2.0	--	--
APR. 26	1035	65	8.0	--	--
JUNE 20	1620	12	22.5	--	--
JULY 20	1020	58	23.0	--	--
AUG. 24	1040	94	22.0	--	--

ANALYSES OF SAMPLE COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO DETROIT RIVER.--Continued

04166100 RIVER ROUGE AT SOUTHFIELD, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1835	30	17.0	--	--
NOV. 10	1010	67	7.0	--	--
DEC. 19	1605	92	0.0	--	--
JAN. 10, 1973	1425	--	0.0	--	--
FEB. 06	1525	62	3.0	--	--
MAR. 21	1005	235	2.0	--	--
APR. 25	0955	73	11.0	--	--
JUNE 07	1025	181	18.5	--	--
AUG. 14	1020	43	21.0	--	--
SEP. 19	1235	20	14.0	--	--

04166200 EVANS DITCH AT SOUTHFIELD, MICH.
(LAT 42°27'28", LONG 83°16'03")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 19, 1971	1030	4.1	10.0	--	--
FEB. 16, 1972	1520	15	3.5	--	--
APR. 26	0900	5.7	7.0	--	--
JULY 20	0920	5.1	21.5	--	--
AUG. 24	0950	4.0	21.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 06, 1972	1015	2.0	16.5	--	--
NOV. 10	1105	6.7	8.5	--	--
DEC. 20	0945	14	3.5	--	--
FEB. 06, 1973	1610	5.8	5.0	--	--
MAR. 21	0900	20	2.0	--	--
APR. 24	1545	6.6	15.0	--	--
JUNE 07	1215	9.1	20.0	--	--
JULY 16	1520	2.1	24.0	--	--
AUG. 14	1115	3.9	20.0	--	--
SEP. 19	1330	2.0	15.0	--	--

04166300 UPPER RIVER ROUGE AT FARMINGTON, MICH.
(LAT 42°27'52", LONG 83°22'11")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 19, 1971	1335	2.0	9.0	--	--
FEB. 02, 1972	1440	--	0.0	--	--
MAR. 16	1420	41	1.5	--	--
APR. 26	1150	16	8.5	--	--
JULY 20	1115	10	23.0	--	--
AUG. 24	1230	6.6	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1435	3.0	16.5	--	--
DEC. 20	1055	18	0.0	--	--
JAN. 10, 1973	1500	--	0.0	--	--
FEB. 06	1430	14	3.0	--	--
MAR. 21	1135	46	2.0	--	--
APR. 25	1045	19	11.0	--	--
JUNE 06	1720	--	20.5	--	--
JULY 16	1110	4.3	18.5	--	--
AUG. 14	0935	5.4	19.0	--	--

04166500 RIVER ROUGE AT DETROIT, MICH.
(LAT 42°22'20", LONG 83°15"20")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 19, 1971	1215	39	10.0	--	--
FEB. 02, 1972	1405	31	0.0	--	--
MAR. 17	1125	253	2.0	--	--
APR. 25	1740	153	10.0	--	--
JUNE 21	1400	154	19.0	--	--
JULY 10	1110	30	23.0	--	--
JULY 19	1610	571	24.0	--	--
AUG. 24	1510	159	23.5.	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
DEC. 19, 1972	1420	141	1.0	--	--
JAN. 11, 1973	0950	--	0.0	--	--
FEB. 06	1340	122	3.0	--	--
APR. 26	1500	177	15.0	--	--
JULY 17	1150	50	21.0	--	--
AUG. 14	1350	74	21.0	--	--
SEP. 19	1105	49	15.0	--	--

STREAMS TRIBUTARY TO DETROIT RIVER.--Continued

04167000 MIDDLE RIVER ROUGE NEAR GARDEN CITY, MICH.
(LAT 42°20'55", LONG 83°18'45")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 18, 1971	0950	13	9.5	--	--
FEB. 01, 1972	1610	16	0.0	--	--
MAR. 17	1245	151	2.0	--	--
APR. 25	1620	105	10.0	--	--
JUNE 21	1215	46	19.5	--	--
JULY 10	1215	20	22.0	--	--
AUG. 24	1640	75	24.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 08, 1972	1455	149	9.0	--	--
DEC. 19	1325	72	2.0	--	--
JAN. 11, 1973	1015	--	0.0	--	--
FEB. 06	1205	87	3.0	--	--
MAR. 21	1435	255	4.0	--	--
APR. 24	1250	171	14.5	--	--
JUNE 07	1750	136	20.5	--	--
JULY 17	1550	28	22.5	--	--
AUG. 14	1440	48	23.0	--	--
SEP. 19	1005	25	15.0	--	--

04168000 LOWER RIVER ROUGE AT INKSTER, MICH.
(LAT 42°18'00", LONG 83° 18'00")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 17, 1971	1210	2.3	9.5	--	--
FEB. 01, 1972	1500	6.1	0.0	--	--
MAR. 17	1405	15	1.0	--	--
APR. 25	1505	78	10.0	--	--
JUNE 21	1105	33	18.0	--	--
JULY 10	1445	2.5	27.0	--	--
AUG. 24	1745	15	24.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 08, 1972	1350	162	9.0	--	--
DEC. 19	1155	42	1.0	--	--
JAN. 11, 1973	1030	--	0.0	--	--
FEB. 06	1125	72	2.5	--	--
MAR. 23	1105	261	3.5	--	--
APR. 24	1135	124	14.0	--	--
JUNE 07	1915	52	21.0	--	--
JULY 17	1335	4.8	22.0	--	--
AUG. 14	1540	19	22.0	--	--
SEP. 19	0910	4.2	13.0	--	--

STREAMS TRIBUTARY TO LAKE ERIE

04169500 HURON RIVER AT COMMERCE, MICH.
(LAT 42°35'25", LONG 83°29'05")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 24, 1971	1045	14	1.5	--	--
FEB. 10, 1972	0955	16	0.0	--	--
MAR. 16	1305	40	3.0	--	--
APR. 26	1455	57	12.5	--	--
JUNE 20	1340	11	23.0	--	--
JULY 20	1225	20	26.0	--	--
AUG. 23	1700	32	25.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1300	20	17.0	--	--
NOV. 10	1240	42	6.0	--	--
DEC. 20	1155	57	1.0	--	--
JAN. 05, 1973	1115	97	1.0	--	--
FEB. 07	0945	71	3.5	--	--
MAR. 20	1600	101	6.0	--	--
APR. 25	1145	76	12.5	--	--
JUNE 06	1330	79	22.5	--	--
JULY 13	1205	38	22.0	--	--
AUG. 13	1005	26	21.0	--	--
SEP. 21	1200	12	11.0	--	--

PERIODIC MEASUREMENTS OF WATER TEMPERATURES AND SPECIFIC CONDUCTANCE --Continued

STREAMS TRIBUTARY TO LAKE ERIE.--Continued

04170000 HURON RIVER AT MILFORD, MICH.
(LAT 42°34'44", LONG 83°37'36")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 24, 1971	1235	58	4.0	--	--
FEB. 10, 1972	1115	45	1.5	--	--
MAR. 16	1130	160	2.0	--	--
APR. 28	1200	118	12.0	--	--
JUNE 20	1235	34	22.5	--	--
JULY 20	1325	54	26.0	--	--
AUG. 23	1610	78	25.0		

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 05, 1972	1200	73	16.5	--	--
NOV. 10	1330	124	7.0	--	--
DEC. 20	1330	128	1.0	--	--
MAR. 20, 1973	1220	282	4.0	--	--
APR. 25	1430	175	15.0	--	--
JUNE 06	1220	220	22.0	--	--
JULY 13	1115	100	23.0	--	--
AUG. 13	1145	121	25.0	--	--
SEP. 21	1035	54	15.0	--	--

04170500 HURON RIVER NEAR NEW HUDSON, MICH.
(LAT 42°30'45", LONG 83°40'35")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
FEB. 10, 1972	1235	58	2.5	--	--
MAR. 16	0935	171	3.5	--	--
APR. 28	1035	132	10.5	--	--
JUNE 20	1040	39	21.5	--	--
AUG. 23	1345	98	22.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1972	1750	75	17.0	--	--
NOV. 10	1610	134	7.0	--	--
DEC. 20	1420	148	2.0	--	--
FEB. 07, 1973	1315	176	4.0	--	--
MAR. 20	1120	312	3.5	--	--
APR. 26	0920	192	14.0	--	--
JUNE 06	1610	221	23.0	--	--
JULY 13	1010	92	24.0	--	--
AUG. 13	1340	142	26.0	--	--
SEP. 24	1000	67	17.0	--	--

04172000 HURON RIVER NEAR HAMBURG, MICH.
(LAT 42°27'55", LONG 83°48'00"

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 24, 1971	1355	149	3.0	--	--
FEB. 17, 1972	1010	110	1.0	--	--
MAR. 15	1340	287	2.5	--	--
APR. 21	0930	304	11.0	--	--
JUNE 21	1550	98	19.0	--	--
JULY 20	1640	142	28.0	--	--
AUG. 23	1055	128	24.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1972	1525	137	17.0	--	--
NOV. 06	1500	344	7.5	--	--
DEC. 21	0930	289	2.0	--	--
FEB. 07, 1973	1425	335	3.0	--	--
MAR. 20	1015	739	4.0	--	--
APR. 26	1105	400	14.0	--	--
JUNE 07	1555	427	22.0	--	--
JULY 11	1000	195	24.0	--	--
AUG. 20	1005	159	24.0	--	--
SEP. 24	1110	108	15.0	--	--

04173000 HURON RIVER NEAR DEXTER, MICH.
(LAT 42°23'10", LONG 83°54'40")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 26, 1971	1110	210	5.5	--	--
FEB. 17, 1972	1120	166	1.0	--	--
MAR. 15	1020	339	2.0	--	--
APR. 27	1105	611	11.5	--	--
JUNE 15	1705	180	24.0	--	--
JULY 19	1030	152	25.0	--	--
AUG. 25	1440	149	27.0	--	--

STREAMS TRIBUTARY TO LAKE ERIE.--Continued

04173000 HURON RIVER NEAR DEXTER, MICH.--Continued

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1972	1300	122	17.0	--	--

04173500 MILL CREEK NEAR DEXTER, MICH.
(LAT 42°18'00', LONG 83°53'55")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1971	1235	23	13.5	--	--
NOV. 26	1220	24	3.0	--	--
FEB. 17, 1972	1305	42	1.5	--	--
MAR. 08	1050	--	0.0	--	--
MAR. 15	1200	305	1.5	--	--
APR. 27	1235	101	10.5	--	--
JUNE 15	1405	32	22.5	--	--
AUG. 25	1330	36	20.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1972	1035	27	14.0	--	--
NOV. 06	1325	55	7.0	--	--
DEC. 22	1155	143	2.0	--	--
JAN, 11, 1973	1630	--	0.0	--	--
FEB. 09	1455	107	1.0	--	--
MAR. 22	1040	306	2.0	--	--
APR. 26	1330	109	13.0	--	--
JUNE 07	1240	221	18.0	--	--
JUNE 11	1340	97	20.0	--	--
AUG. 15	1255	79	19.0	--	--
SEP. 24	1230	31	14.0	--	--

04174500 HURON RIVER AT ANN ARBOR
(LAT 42°17'10", LONG 83°44'00")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1971	1020	137	14.5	--	--
NOV. 26	1325	249	3.0	--	--
FEB. 10, 1972	1410	235	0.0	--	--
MAR. 21	1330	692	5.0	--	--
APR. 27	1420	842	12.0	--	--
JUNE 15	1535	229	26.0	--	--
JULY 19	1240	12	25.0	--	--
AUG. 22	1415	167	27.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 04, 1972	1005	82	15.0	--	--
NOV. 13	1010	222	7.0	--	--
DEC. 21	1025	357	1.0	--	--
FEB. 09, 1973	0955	659	1.0	--	--
MAR. 23	1640	1,760	6.0	--	--
APR. 27	0945	891	13.5	--	--
JUNE 07	0950	--	25.0	--	--
JUNE 13	1030	771	25.0	--	--
JULY 11	1120	187	25.5	--	--
SEP. 20	1515	125	18.0	--	--

04175550 STONY CREEK AT OAKVILLE, MICH.
(LAT 42°05'05", LONG 83°34'43")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1971	1405	6.9	14.0	--	--
NOV. 23	1220	8.7	0.0	--	--
DEC. 17	1150	26	0.0	--	--
FEB. 01, 1972	1025	9.1	0.0	--	--
MAR. 07	1045	--	0.0	--	--
MAR. 21	1210	59	5.0	--	--
APR. 24	1740	92	7.5	--	--
MAY 24	1035	18	8.0	--	--
JULY 18	1230	9.3	23.0	--	--
AUG. 22	1250	9.5	21.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 08, 1972	1120	141	7.0	--	--
DEC. 21	1245	70	1.0	--	--
JAN. 11, 1973	1320	--	0.0	--	--
FEB. 05	1555	68	3.0	--	--
MAR. 23	1325	182	4.0	--	--
APR. 27	1135	35	10.5	--	--
JUNE 08	1525	44	20.5	--	--
JULY 12	1110	19	17.0	--	--
AUG. 15	1030	14	19.0	--	--
SEP. 20	1310	9.5	13.0	--	--

STREAMS TRIBUTARY TO LAKE ERIE.--Continued

04175600 RIVER RAISIN NEAR MANCHESTER, MICH.
(LAT 42°10'05", LONG 94°04'34")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 02, 1971	1320	26.0	13.5	--	--
NOV. 23	1510	28	2.0	--	--
JAN. 31, 1972	1005	55	0.0	--	--
MAR. 21	1705	143	6.5	--	--
APR. 24	1010	199	8.0	--	--
JUNE 15	1155	33	24.0	--	--
JULY 18	1405	24	26.0	--	--
AUG. 25	1125	47	24.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 03, 1972	1830	77	16.0	--	--
DEC. 22	1410	136	1.0	--	--
JAN. 07, 1973	1245	91	8.0	--	--
JAN. 11	1550	--	0.0	--	--
FEB. 09	1255	119	1.0	--	--
MAR. 22	1355	279	6.0	--	--
JUNE 13	1545	173	26.0	--	--
JULY 12	1355	106	21.0	--	--
AUG. 17	0945	55	22.0	--	--
SEP. 20	1030	15	15.0	--	--

04175700 RIVER RAISIN NEAR TECUMSEH, MICH.
(LAT 41°56'35", LONG 83°56'45")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 01, 1971	1425	61	12.0	--	--
NOV. 22	1605	76	2.0	--	--
JAN. 31, 1972	1445	98	0.0	--	--
MAR. 20	1540	260	4.5	--	--
APR. 24	1225	386	9.5	--	--
JUNE 14	1340	79	21.0	--	--
JULY 11	1420	66	24.0	--	--
AUG. 21	1525	102	23.5	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 02, 1972	1755	149	13.5	--	--
NOV. 09	1320	403	7.0	--	--
DEC. 18	1540	294	0.0	--	--
JAN. 11, 1973	1445	--	0.0	--	--
FEB. 05	1355	298	3.0	--	--
APR. 23	1435	566	15.0	--	--
JUNE 08	1230	--	21.5	--	--
JULY 18	1340	148	22.0	--	--
AUG. 17	1125	130	21.0	--	--
SEP. 19	1010	77	15.0	--	--

04176000 RIVER RAISIN NEAR ADRIAN, MICH.
(LAT 41°54'15", LONG 83°58'50")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 22, 1971	1440	166	3.0	--	--
JAN. 31, 1972	1550	167	0.0	--	--
MAR. 20	1405	509	3.5	--	--
APR. 24	1425	760	9.5	--	--
JUNE 14	1230	108	21.5	--	--
JULY 17	1340	91	24.0	--	--
AUG. 21	1420	141	23.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 02, 1972	1435	295	13.0	--	--
NOV. 07	1240	282	7.5	--	--
DEC. 18	1340	435	0.0	--	--
JAN. 11, 1973	1130	--	0.0	--	--
FEB. 05	1235	605	3.0	--	--
MAR. 22	1545	1,390	5.0	--	--
APR. 23	1215	724	16.0	--	--
JUNE 08	1540	598	21.5	--	--
AUG. 17	1255	167	23.0	--	--
SEP. 18	1130	91	15.0	--	--

STREAMS TRIBUTARY TO LAKE ERIE.--Continued

04176400 SALINE RIVER NEAR SALINE, MICH.
(LAT 42°07'50", LONG 83°46'35")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 01, 1971	1310	11	11.0	--	--
NOV. 23	1335	11	0.5	--	--
JAN. 31, 1972	1245	20	0.0	--	--
MAR. 21	1440	75	7.0	--	--
APR. 24	1620	123	8.0	--	--
JUNE 15	1030	35	21.0	--	--
AUG. 25	0950	20	22.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 03, 1972	1650	23	15.0	--	--
NOV. 07	1420	39	8.0	--	--
DEC. 21	1500	88	2.5	--	--
JAN. 11, 1973	1415	--	0.0	--	--
FEB. 09	1100	41	0.0	--	--
MAR. 23	1515	237	5.0	--	--
APR. 27	1255	73	10.5	--	--
JUNE 13	1230	42	22.0	--	--
JULY 13	1410	36	20.0	--	--
AUG. 20	1235	52	24.0	--	--
SEP. 20	1210	18	14.0	--	--

04176500 RIVER RAISIN NEAR MONROE, MICH.
(LAT 41°57'40", LONG 83°31'55")

WATER YEAR 1972

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
NOV. 23, 1971	1020	129	2.5	--	--
FEB. 01, 1972	1145	281	0.0	--	--
MAR. 21	0920	1,360	4.0	--	--
APR. 25	0940	2,000	7.5	--	--
JUNE 14	1550	183	24.0	--	--
JULY 18	0915	180	25.0	--	--
AUG. 22	1000	438	23.0	--	--

WATER YEAR 1973

DATE	TIME	DISCHARGE (CFS)	WATER TEMPERATURE (°C)	AIR TEMPERATURE (°C)	SPECIFIC CONDUCTANCE (UMHOS at 25°C)
OCT. 03, 1972	1130	756	15.0	--	--
DEC. 19	0950	911	0.5	--	--
JAN. 11, 1973	0950	--	0.0	--	--
FEB. 06	0920	1,520	2.5	--	--
MAR. 23	0825	3,510	3.5	--	--
APR. 24	0855	1,210	16.0	--	--
JUNE 08	1020	910	20.5	--	--
JULY 18	1740	324	25.0	--	--
AUG. 15	0930	369	24.0	--	--
SEP. 18	1320	112	18.0	--	--

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
(NOTE--VALUES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

STREAMS TRIBUTARY TO LAKE MICHIGAN

04058100 - M BR ESCANABA RIVER NR PRINCETON, MICH. . (LAT 46 19 02 LONG 087 30 07.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
NOV., 1971											
02...	1230	364	E.09	38	80	7.0	6.0	160	4	5.0	--
DEC.											
13...	1330	365	E.34	103	90	7.6	.0	50	7	-4.0	1
FEB., 1972											
02...	1300	360	E.20	58	80	6.7	.0	50	2	.0	--
MAR.											
22...	1225	390	E.36	42	85	6.8	.5	0	3	4.0	--
APR.											
28...	1000	773	E.38	14	60	6.8	1.5	0	3	--	--
MAY											
24...	1000	402	E.04	32	60	6.6	19.5	110	2	24.0	--
JULY											
06...	0845	362	E.00	36	100	7.6	16.5	90	4	20.0	--
AUG.											
17...	1015	9.2	E.07	38	80	7.4	18.5	25	8	22.5	--
SEP.											
12...	1000	253	E.09	38	100	6.9	14.5	45	5	14.5	--
OCT.											
31...	1300	337	E.00	20	70	7.2	3.5	50	6	1.5	--
DEC.											
04...	1400	179	E.04	32	90	7.4	.0	60	4	-12.0	--
JAN., 1973											
22...	1145	E350	E.00	44	85	6.8	.0	45	4	-1.0	2
MAR.											
05...	1030	E200	E.11	56	100	7.0	.0	50	5	-1.0	1
APR.											
02...	0900	488	E.07	24	60	6.3	2.5	50	3	2.5	--
MAY											
15...	0930	917	E.00	32	50	6.5	8.0	40	4	5.5	--
JUNE											
05...	0950	278	E.00	46	70	6.2	17.5	45	2	16.0	--
JULY											
02...	1050	340	E.00	42	68	6.7	17.0	45	5	19.0	--
31...	1100	298	E.00	42	80	6.8	17.5	45	4	14.5	--
AUG.											
30...	1015	320	E.00	45	90	6.6	23.0	55	6	23.5	--

04058120 - GREEN CREEK NR PALMER, MICH. (LAT 46 22 22 LONG 087 36 21.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
NOV., 1971											
02...	1515	--	E.09	54	120	7.0	5.5	80	7	5.0	--
DEC.											
13...	1500	2.6	E.32	108	145	7.0	.0	20	4	-4.0	2
FEB., 1972											
02...	1400	2.2	E.27	108	100	6.9	.0	10	3	-4.0	4
MAR.											
22...	1400	3.0	E.25	84	175	6.9	.0	0	4	5.0	--
APR.											
28...	1115	E15	E.45	26	70	6.4	3.0	0	6	18.0	--
MAY											
24...	1100	21	E.09	84	310	6.9	10.0	40	2	25.0	--
JULY											
06...	0945	10	E.04	96	300	7.9	15.5	20	2	21.0	--
AUG.											
16...	--	21	E.16	88	330	7.9	19.0	50	6	22.5	--
SEP.											
12...	1030	15	E.02	58	400	7.2	14.0	10	1	16.5	--
OCT.											
31...	1400	20	E.23	47	380	7.5	3.5	20	3	1.5	--
DEC.											
04...	1430	--	E.09	64	245	7.2	.0	20	6	-12.0	--
JAN., 1973											
22...	1330	19	E.50	100	420	7.4	.0	20	1	.0	4
MAR.											
05...	1100	21	E.52	122	440	7.8	.5	5	2	9.0	0
APR.											
02...	1030	35	E.45	82	300	7.3	3.0	20	2	2.5	--
MAY											
15...	1015	7.0	E.07	64	100	7.2	6.0	20	4	6.5	--
JUNE											
05...	1020	4.0	E.00	80	180	7.4	15.0	45	2	16.5	--
JULY											
02...	1200	3.5	E.02	74	130	7.0	15.0	20	5	19.5	--
31...	1140	28	E.00	62	135	6.8	15.0	125	130	14.5	--
AUG.											
30...	1100	.50	E.07	82	160	7.0	10.5	10	4	24.0	--

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
(NOTE--VALUES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSIS.)

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04058250 - WARNER CREEK TRIBUTARY NR PALMER, MICH. , (LAT 46 25 20 LONG 087 36 09.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
AUG., 1972 17...	1100	5.0	E.07	56	155	6.7	18.5	40	10	21.5	--
SEP. 12...	1100	2.0	E.09	46	150	6.6	10.5	20	3	17.0	--
OCT. 31...	1530	3.0	E.09	42	130	7.2	2.0	30	6	1.5	--
DEC. 04...	1600	1.0	E.07	76	175	7.2	.0	30	15	-12.0	--
JAN., 1973 25...	1200	E4.0	E.20	76	145	6.8	.0	45	10	1.0	4
MAR. 05...	1150	E1.5	E.22	88	150	7.2	.5	40	20	1.5	2
APR. 02...	1030	17	E.18	64	125	6.3	2.0	20	9	3.0	--
MAY 15...	1045	14	E.25	72	172	7.0	4.5	10	10	7.0	--
JUNE 05...	1255	7.0	E.09	64	150	7.5	15.0	5	3	19.0	--
JULY 02...	1245	8.0	E.16	110	190	6.8	15.5	25	40	22.5	--
31...	1200	140	E.07	88	180	6.8	14.5	45	18	15.0	--
AUG. 30...	1130	2.0	E.20	110	220	6.9	18.5	25	10	24.0	--

04058500 - EAST BRANCH ESCANABA RIVER AT GWINN, MICH. , (LAT 46 17 10 LONG 087 26 00.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
NOV., 1971 02...	1030	E131	E.16	52	120	7.1	5.5	140	4	15.0	--
DEC. 13...	1240	E120	E.36	142	110	7.3	.0	30	5	-4.0	2
FEB., 1972 02...	1130	39	E.36	78	125	6.7	.0	50	1	-5.0	--
MAR. 22...	1015	42	E.34	56	115	7.0	.0	0	2	7.0	--
APR. 28...	0900	650	E.41	28	85	6.4	1.0	0	4	16.0	--
MAY 24...	0900	129	E.05	54	120	6.9	16.0	70	1	24.0	--
JULY 06...	0815	43	E.11	68	135	8.0	13.0	40	2	19.5	--
AUG. 17...	0930	82	E.02	44	120	7.8	17.0	130	5	21.5	--
SEP. 12...	0900	30	E.25	50	150	6.8	11.0	10	2	12.5	--
OCT. 31...	1200	80	E.06	41	130	7.4	3.0	40	2	1.0	--
DEC. 04...	1200	57	E.14	50	170	7.1	.0	50	3	-15.0	--
JAN., 1973 22...	1040	E55	E.25	60	130	7.3	.0	35	2	.5	3
MAR. 05...	0915	51	E.25	72	150	7.4	.0	0	4	-2.0	2
APR. 02...	0830	384	E.20	40	80	6.8	1.5	50	5	3.0	--
MAY 15...	0900	358	E.16	70	130	8.3	6.5	15	2	5.5	--
JUNE 05...	0925	103	E.07	22	30	7.8	15.0	50	1	16.0	--
JULY 02...	0955	129	E.25	66	130	6.8	15.0	30	4	18.0	--
31...	1030	266	E.20	58	120	6.8	15.5	30	8	13.0	--
AUG. 30...	0930	66	E.11	76	145	7.0	19.5	20	3	26.5	--

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
(NOTE--VALUES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

STREAMS TRIBUTARY TO LAKE MICHIGAN.--Continued

04062230 - MICHIGAMME RIVER NR MICHIGAMME, MICH. . (LAT 46 28 00 LONG 088 04 28.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
NOV., 1971											
02...	1700	166	E.14	18	<50	7.4	7.5	30	1	3.0	--
DEC.											
10...	1210	194	E.34	52	60	7.1	1.0	40	5	1.5	--
JAN., 1972											
24...	1130	122	E.32	26	<50	6.6	.5	40	1	11.0	--
MAR.											
23...	1320	102	E.14	20	50	6.8	2.0	0	1	--	--
APR.											
28...	1030	700	E.32	18	<50	6.4	1.0	0	1	19.0	--
MAY											
22...	1400	873	E.09	14	<50	6.5	15.0	40	1	20.0	--
JULY											
05...	1300	172	E.00	12	<50	7.5	19.0	40	7	23.0	--
AUG.											
16...	1140	185	E.11	10	<50	7.5	20.0	80	2	22.0	--
SEP.											
12...	1030	105	E.14	14	<50	6.5	15.5	25	1	16.5	--
OCT.											
31...	1150	235	E.07	12	<50	7.5	5.0	45	2	3.0	--
DEC.											
04...	1420	222	E.09	20	50	7.4	.0	50	2	-10.0	--
JAN., 1973											
23...	1430	124	E.09	24	50	7.3	.0	50	1	-4.5	2
MAR.											
06...	1000	103	E.14	26	50	7.3	.5	40	4	2.0	1
APR.											
03...	0900	1010	E.16	22	50	6.2	1.5	50	2	-.5	--
MAY											
10...	1230	1050	E.11	28	54	6.5	7.0	40	2	9.5	--
JUNE											
05...	1200	295	E.05	44	80	7.4	12.5	20	1	19.0	--
JULY											
02...	1025	210	E.05	32	45	6.4	19.0	30	1	19.0	--
31...	1330	106	E.05	24	49	6.3	19.0	25	2	14.0	--
AUG.											
30...	1045	104	E.00	28	45	6.7	21.0	30	1	25.0	--

04062400 - MICHIGAMME RIVER NEAR WITCH LAKE, MICH. (LAT 46 14 48 LONG 088 00 45.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL NITRATE (N) (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
NOV., 1971											
02...	1310	307	E.27	38	90	7.1	6.0	50	3	5.0	--
DEC.											
04...	1310	302	E.36	107	100	8.0	.0	30	6	1.5	--
JAN., 1972											
24...	1315	E200	E.27	54	70	6.9	.0	30	1	-12.0	4
MAR.											
23...	1130	161	E.04	50	110	6.8	.0	0	1	4.5	3
APR.											
28...	0945	1000	E.07	20	70	6.2	2.0	0	2	14.5	--
MAY											
22...	0940	1200	E.09	22	56	6.2	13.5	60	1	20.0	--
JULY											
05...	1100	200	E.00	28	80	6.7	--	70	1	--	--
AUG.											
16...	1300	261	E.11	34	110	6.9	19.0	80	4	21.5	--
SEP.											
12...	0940	148	E.11	46	120	6.6	13.5	25	1	16.5	--
OCT.											
31...	1100	383	E.11	24	75	7.4	4.0	40	2	3.0	--
DEC.											
04...	1150	E300	E.07	42	85	7.4	.0	50	2	-10.0	--
JAN., 1973											
23...	1210	221	E.23	48	110	7.0	.0	35	3	-5.0	4
MAR.											
06...	1130	210	E.32	56	115	7.1	.0	20	4	2.0	2
APR.											
03...	1130	1380	E.16	20	50	6.5	1.5	50	2	2.0	--
MAY											
10...	1000	2330	E.07	32	70	6.5	8.5	35	2	9.0	--
JUNE											
05...	1330	446	E.18	120	230	7.0	17.5	10	14	20.5	--
JULY											
02...	0945	308	E.07	54	80	6.7	18.5	20	2	19.0	--
31...	1420	255	E.07	56	110	6.8	18.0	20	2	15.0	--
AUG.											
30...	1000	154	E.07	58	100	7.1	22.0	25	2	25.0	--

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
(NOTE—VALUES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

04065550 - PINE CREEK NR RANDVILLE, MICH. (LAT 45 58 02 LONG 088 00 28.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED CHLORIDE (CL) (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
JAN., 1972											
11...	1300	--	--	--	225	7.2	.0	8.3	60	-6.0	4
FEB.											
02...	1500	E.90	--	--	300	7.0	.5	4.5	33	-4.0	4
MAR.											
15...	1130	E.60	E5.0	E140	280	7.1	.2	6.6	48	--	--
APR.											
20...	1310	19	E5.0	E70	135	6.5	1.5	10.0	70	--	--
26...	1320	12	E5.0	E70	115	6.7	2.4	10.9	82	--	--
MAY											
17...	1300	2.3	--	--	200	7.5	17.0	8.5	90	--	--
JUNE											
23...	1220	.74	--	--	300	8.0	14.0	9.7	99	--	--
JULY											
06...	1200	.00	--	--	340	7.6	17.5	7.0	76	--	--
SEP.											
08...	1440	.52	E15	E140	275	7.8	15.5	12.2	125	--	--
NOV.											
13...	1400	1.3	--	E100	200	7.2	2.0	11.8	89	-2.0	--
JAN., 1973											
10...	1340	1.0	--	--	160	7.2	.0	7.8	56	-11.0	4
MAR.											
21...	1400	6.3	--	--	165	7.2	.5	11.0	80	5.0	1
MAY											
17...	1345	4.2	--	--	105	7.2	10.0	10.6	98	10.0	--
JULY											
11...	1315	.76	--	--	300	7.9	20.5	9.6	110	21.0	--

04065560 - GROVELAND MINE OUTLET NR RANDVILLE, MICH. (LAT 45 58 27 LONG 088 00 10.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED CHLORIDE (CL) (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
OCT., 1971											
15...	1640	3.4	--	--	1300	7.4	14.0	7.8	79	--	--
JAN., 1972											
11...	1050	5.0	--	--	1500	7.2	1.0	9.4	67	-6.0	1
FEB.											
02...	1300	3.6	--	--	1300	7.2	1.0	5.8	41	-4.0	4
MAR.											
15...	1200	9.5	30	800	1520	7.1	.0	6.5	46	--	--
APR.											
20...	1230	31	E25	E390	830	7.4	2.0	12.2	90	--	--
26...	1530	19	E20	E355	825	7.3	3.0	7.1	55	--	--
MAY											
17...	1100	5.9	--	--	900	7.9	19.0	9.0	100	--	--
JUNE											
23...	0915	.00	--	--	1050	6.7	16.0	8.1	85	--	--
JULY											
06...	1040	.00	--	--	1100	7.8	22.0	8.4	100	--	--
SEP.											
08...	1200	4.4	E30	E530	1100	7.6	17.5	9.6	100	--	--
JAN., 1973											
10...	1515	.00	--	--	1130	7.2	.0	7.4	53	-11.0	4
MAR.											
21...	1530	15	--	--	800	7.5	.0	10.4	74	6.0	1
MAY											
17...	1145	12	--	--	850	7.5	10.5	8.2	77	10.0	--
JULY											
11...	1100	3.0	--	--	930	7.9	23.0	7.2	87	20.0	--

DATE	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	TOTAL NITRATE (N) (MG/L)
MAR., 1972								
15...	20	220	60	65	19	122	0	1.8

DATE	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	NONCARBONATE HARDNESS (MG/L)	COLOR (PLATINUM-COBALT UNITS)
MAR., 1972						
15...	100	790	.5	1320	700	20

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
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04065570 - PINE CREEK NEAR MERRIMAN, MICH. (LAT 45 56 42 LONG 087 59 13.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
OCT., 1971									
15...	1245	9.8	910	7.4	10.0	11.2	100	--	--
JAN., 1972									
11...	1510	5.9	1000	7.2	.0	11.9	85	-2.0	4
FEB.									
01...	1500	5.1	1130	7.2	.0	11.7	84	-4.0	4
MAR.									
15...	1400	6.9	1200	7.0	.5	9.7	70	--	--
APR.									
21...	1000	76	520	7.1	1.0	12.0	88	--	--
26...	1330	58	440	7.6	6.5	10.3	87	--	--
MAY									
17...	1200	14	480	8.0	17.0	8.7	95	--	--
JUNE									
23...	1115	2.6	380	8.0	14.0	9.2	93	--	--
JULY									
06...	1300	1.4	400	7.9	19.0	9.7	100	--	--
SEP.									
08...	1450	8.3	750	7.7	16.5	10.0	100	--	--
NOV.									
13...	1300	8.3	480	7.5	1.5	12.6	94	-2.0	0
JAN., 1973									
09...	1430	3.6	470	7.1	.0	10.6	76	-15.0	4
MAR.									
21...	1345	47	580	7.4	1.0	11.4	84	2.5	0
MAY									
16...	1400	26	560	7.6	8.5	9.0	75	1.0	--
JULY									
10...	1410	6.4	640	7.9	21.0	7.4	86	22.0	--

04065580 - MOUNTY'S CREEK NR MERRIMAN, MICH. (LAT 45 56 41 LONG 087 59 23.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
OCT., 1971									
15...	1330	1.5	140	7.3	11.5	10.8	100	--	--
JAN., 1972									
11...	1330	.98	200	7.2	.0	11.2	80	-2.0	4
FEB.									
01...	1610	.85	165	7.3	.5	11.8	86	-3.0	4
MAR.									
15...	1500	1.3	210	7.1	.5	8.1	58	--	--
APR.									
21...	1100	24	120	6.8	.5	11.0	80	--	--
26...	1230	18	65	7.7	4.0	10.2	82	--	--
MAY									
17...	1100	3.5	100	7.5	19.0	7.1	80	--	--
JUNE									
23...	1230	.33	160	7.7	17.0	9.1	98	--	--
JULY									
06...	1200	.11	170	7.9	22.5	10.2	100	--	--
SEP.									
08...	1340	2.4	150	7.6	18.0	9.0	99	--	--
JAN., 1973									
09...	1330	1.4	200	6.9	.0	10.0	71	-1.4	4
MAR.									
21...	1300	11	110	6.7	2.0	10.2	77	2.5	0
MAY									
16...	1300	7.7	120	7.2	10.0	9.0	83	4.0	--
JULY									
10...	1325	1.7	140	7.7	23.5	9.6	70	22.0	--

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
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04065590 - STEEL CREEK NR MERRIMAN, MICH. (LAT 45 56 31 LONG 087 59 33.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
OCT., 1971									
15...	1410	2.1	280	7.4	9.0	11.0	100	--	--
JAN., 1972									
11...	1220	2.1	310	7.3	.0	9.7	69	-2.0	4
FEB.									
01...	1740	1.2	<50	7.5	.0	7.9	56	-6.0	4
MAR.									
15...	1600	--	210	7.4	.0	10.0	71	--	--
APR.									
26...	1350	24	160	6.7	4.0	9.3	74	--	--
MAY									
17...	1300	3.5	180	7.8	17.5	8.6	95	--	--
JUNE									
23...	1315	1.4	315	8.1	15.5	10.3	100	--	--
JULY									
06...	1100	.93	330	7.7	16.5	9.5	100	--	--
SEP.									
08...	1230	1.9	270	7.7	16.5	9.2	98	--	--
JAN., 1973									
09...	1210	2.5	180	7.1	.0	8.2	59	-14.0	4
MAR.									
21...	1130	9.5	165	6.8	.5	9.6	70	2.5	1
MAY									
16...	1130	5.5	180	7.1	7.5	7.4	64	4.0	--
JULY									
10...	1240	2.3	210	7.8	20.0	8.2	93	19.5	--

04065600 - PINE CREEK NEAR IRON MOUNTAIN, MICH. (LAT 45 55 51 LONG 087 58 18.01)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED CHLORIDE (CL) (MG/L)	HARDNESS (CA,MG) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	AIR TEMPERATURE (DEG C)	FLOATING OR SOLID ICE COVER (SEVERITY)
OCT., 1971											
15...	1525	14	--	--	710	7.6	10.0	11.4	100	--	--
JAN., 1972											
11...	1600	9.1	--	--	775	7.2	.0	11.8	85	-7.0	4
FEB.											
02...	1315	8.0	--	--	950	7.2	.0	12.3	87	-4.0	4
MAR.											
15...	1700	9.9	14	480	955	7.3	.0	11.8	80	--	--
APR.											
26...	1600	104	--	--	290	7.2	5.5	10.7	88	--	--
MAY											
17...	1500	23	--	--	460	8.1	18.0	9.1	100	--	--
JUNE											
23...	1315	4.1	--	--	340	8.1	13.0	9.5	94	--	--
JULY											
06...	1500	39	--	--	340	8.2	15.5	8.3	86	--	--
SEP.											
08...	1630	14	E15	E270	560	7.8	16.0	10.4	100	--	--
JAN., 1973											
10...	1200	6.1	--	--	450	7.4	.0	10.4	74	-11.0	4
MAR.											
21...	1100	68	--	--	360	7.3	.0	12.8	91	-1.0	1
MAY											
17...	1500	41	--	--	410	7.6	10.0	9.0	83	12.0	--
JULY											
11...	1415	8.8	--	--	510	8.0	19.0	8.0	89	21.0	--

DATE	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	TOTAL NITRATE (N) (MG/L)
MAR., 1972								
15...	16	120	43	31	8.9	130	0	1.2

DATE	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	NONCARBONATE HARDNESS (MG/L)	COLOR (PLATINUM-COBALT UNITS)
MAR., 1972						
15...	107	390	.5	750	370	20

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
(NOTE--VALUES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

04106505 - AXTELL CREEK AT PARK ST AT KALAMAZOO, MICH. (LAT 42 16 38 LONG 085 35 14.01)

DATE	TIME	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	TOTAL NITRATE (N) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)
MAY , 1972								
12...	1100	652	0	326	E86	44	E.30	--
AUG.								
16...	1155	411	0	337	E70	48	E.36	--
OCT.								
16...	1110	--	--	--	--	--	--	--
NOV.								
15...	1040	--	--	--	--	--	--	--
DEC.								
08...	1155	410	0	336	E75	350	E.90	--
FEB., 1973								
16...	1045	402	0	330	E66	64	E.68	--
MAR.								
21...	1120	398	0	326	E110	51	E1.2	--
APR.								
17...	1125	394	0	323	E110	46	E.30	--
MAY								
18...	1130	394	0	323	E105	44	E1.8	--
JUNE								
18...	1140	362	0	297	E75	40	E.54	--
JULY								
02...	1225	406	0	333	E72	39	E.36	--
18...	1130	--	--	--	--	--	--	--
AUG.								
07...	1130	402	0	330	66	39	.25	514
SEP.								
04...	1200	--	--	--	--	--	--	--

DATE	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	AIR TEMPER-ATURE (DEG C)
MAY , 1972								
12...	840	510	775	7.4	14.0	30	4	21.0
AUG.								
16...	300	0	825	7.8	17.5	50	4	26.0
OCT.								
16...	--	--	705	--	11.0	--	--	5.0
NOV.								
15...	--	--	800	--	6.0	--	--	--
DEC.								
08...	438	100	1780	7.7	6.0	20	6	-7.0
FEB., 1973								
16...	426	96	890	8.1	3.0	--	5	--
MAR.								
21...	436	110	870	7.6	9.0	--	5	--
APR.								
17...	428	100	840	8.0	12.0	10	7	12.5
MAY								
18...	424	100	825	8.5	12.0	0	4	24.0
JUNE								
18...	380	83	800	6.9	15.0	5	7	24.0
JULY								
02...	414	81	800	7.9	18.0	10	16	31.0
18...	--	--	800	7.3	16.0	--	--	27.0
AUG.								
07...	420	90	845	7.3	24.0	--	3	31.0
SEP.								
04...	--	--	840	7.6	19.5	--	--	29.0

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO 1973
(NOTE--VALUES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

04106506 - AXTELL CREEK RECHARGE POND AT KALAMAZOO, MICH. (LAT 42 16 45 LONG 085 35 03.01)

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	HARDNESS (CA,MG) (MG/L)	TOTAL NITRATE (N) (MG/L)
MAY , 1972								
12...	1045	396	0	195	E15	46	520	E.18
JUNE								
09...	1245	--	--	--	--	--	--	--
JULY								
14...	1215	--	--	--	--	--	--	--
AUG.								
16...	1150	223	0	183	E45	45	176	E.93
OCT.								
16...	1105	--	--	--	--	--	--	--
NOV.								
15...	1030	--	--	--	--	--	--	--
DEC.								
08...	1145	344	0	282	E35	102	372	E.43
FEB., 1973								
16...	1040	396	0	325	E42	144	426	E.56
MAR.								
21...	1115	266	0	218	E40	139	336	E.52
APR.								
17...	1115	338	0	277	E53	53	374	E.00
MAY								
18...	1125	366	0	300	E56	48	406	E1.1
JUNE								
18...	1130	356	0	292	E65	46	376	E.07
JULY								
02...	1220	242	0	198	E36	30	250	E.32
18...	1125	--	--	--	--	--	--	--
AUG.								
07...	1130	--	--	--	--	--	--	--
SEP.								
04...	1155	--	--	--	--	--	--	--

DATE	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	AIR TEMPERATURE (DEG C)
MAY , 1972							
12...	320	550	7.5	18.0	30	4	26.0
JUNE							
09...	--	625	--	25.0	--	--	--
JULY							
14...	--	570	--	27.5	--	--	--
AUG.							
16...	0	525	8.4	23.0	60	1	26.0
OCT.							
16...	--	660	--	11.5	--	--	11.5
NOV.							
15...	--	570	--	4.0	--	--	5.0
DEC.							
08...	90	550	7.9	1.0	40	8	-7.0
FEB., 1973							
16...	100	1150	8.0	3.0	--	10	--
MAR.							
21...	120	1000	7.8	6.0	--	10	--
APR.							
17...	97	775	8.4	12.0	15	10	10.5
MAY							
18...	110	880	9.2	14.5	15	7	26.0
JUNE							
18...	84	775	8.3	22.5	15	10	24.0
JULY							
02...	52	500	8.0	25.0	0	12	32.0
18...	--	575	7.8	24.0	--	--	22.0
AUG.							
07...	--	555	7.6	24.0	--	--	31.0
SEP.							
04...	--	725	8.0	27.0	--	--	32.0

PERIODIC SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, SEPTEMBER 1971 TO APRIL 1972.

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM
04102800 - SOUTH BRANCH KALAMAZOO RIVER AT HOMER, MICH. . (LAT 42 08 50 LONG 084 48 11.01)							
SEP., 1971 16...	1440	--	34	23	2.1	--	--
OCT. 20...	1105	14.5	35	32	3.0	--	--
NOV. 24...	1212	.0	41	25	2.8	--	--
DEC. 13...	1405	--	73	46	9.1	--	--
JAN., 1972 08...	1300	.0	81	20	4.4	--	--
MAR. 02...	1020	2.5	108	59	17	--	--
APR. 17...	1215	8.5	237	75	48	--	--
04102810 - SOUTH BRANCH KALAMAZOO RIVER BELOW HOMER, MICH., (LAT 42 09 34 LONG 084 48 19.01)							
JAN., 1972 08...	1350	.0	81	18	3.9	--	--
MAR. 02...	1000	2.5	108	68	20	--	--
APR. 17...	1315	9.0	237	90	58	--	--
04102850 - SOUTH BRANCH KALAMAZOO RIVER NEAR ALBION, MICH., (LAT 42 12 11 LONG 084 47 39.01)							
SEP., 1971 16...	1430	--	44	14	1.7	22	27
17...	1430	--	44	14	1.7	--	27
OCT. 20...	1030	13.5	43	20	2.3	--	--
NOV. 24...	1400	2.5	48	14	1.8	62	76
DEC. 13...	1250	--	87	40	9.4	--	--
JAN., 1972 08...	1145	.5	79	22	4.7	--	--
MAR. 02...	1205	3.0	113	79	24	--	--
APR. 17...	1415	10.5	254	93	64	--	--
04102900 - SOUTH BRANCH KALAMAZOO RIVER AT ALBION, MICH. . (LAT 42 14 25 LONG 084 44 55.01)							
SEP., 1971 16...	1530	--	50	20	2.7	--	--
OCT. 20...	1215	16.0	53	22	3.1	--	--
NOV. 24...	1600	1.0	56	25	3.8	--	--
DEC. 13...	1120	--	97	18	4.7	--	--
JAN., 1972 08...	1500	1.0	94	5	1.3	--	--
MAR. 02...	1310	2.0	127	49	17	--	--
APR. 17...	1600	13.0	245	27	18	--	--
04102990 - NORTH BRANCH KALAMAZOO RIVER NEAR ALBION, MICH., (LAT 42 14 06 LONG 084 41 41.01)							
OCT., 1971 20...	1400	16.0	42	19	2.2	--	--

PERIODIC SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, SEPTEMBER 1971 TO APRIL 1972.--Continued

DATE	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM
04102800 - SOUTH BRANCH KALAMAZOO RIVER AT HOMER, MICH. . (LAT 42 08 50 LONG 084 48 11.01)						
SEP., 1971						
16...	--	--	--	--	--	--
OCT.						
20...	--	--	--	--	--	--
NOV.						
24...	--	--	--	--	--	--
DEC.						
13...	--	--	--	--	--	--
JAN., 1972						
08...	--	--	--	--	--	--
MAR.						
02...	--	--	--	--	--	--
APR.						
17...	--	--	--	--	--	--
04102810 - SOUTH BRANCH KALAMAZOO RIVER BELOW HOMER, MICH.. (LAT 42 09 34 LONG 084 48 19.01)						
JAN., 1972						
08...	--	--	--	--	--	--
MAR.						
02...	--	--	--	--	--	--
APR.						
17...	--	--	--	--	--	--
04102850 - SOUTH BRANCH KALAMAZOO RIVER NEAR ALBION, MICH.. (LAT 42 12 11 LONG 084 47 39.01)						
SEP., 1971						
16...	39	54	76	90	99	100
17...	39	54	76	90	99	100
OCT.						
20...	--	--	--	--	--	--
NOV.						
24...	86	90	92	--	--	--
DEC.						
13...	--	--	--	--	--	--
JAN., 1972						
08...	--	--	--	--	--	--
MAR.						
02...	--	--	--	--	--	--
APR.						
17...	--	--	--	--	--	--
04102900 - SOUTH BRANCH KALAMAZOO RIVER AT ALBION, MICH. . (LAT 42 14 25 LONG 084 44 55.01)						
SEP., 1971						
16...	--	--	--	--	--	--
OCT.						
20...	--	--	--	--	--	--
NOV.						
24...	--	--	--	--	--	--
DEC.						
13...	--	--	--	--	--	--
JAN., 1972						
08...	--	--	--	--	--	--
MAR.						
02...	--	--	--	--	--	--
APR.						
17...	--	--	--	--	--	--
04102990 - NORTH BRANCH KALAMAZOO RIVER NEAR ALBION, MICH.. (LAT 42 14 06 LONG 084 41 41.01)						
OCT., 1971						
20...	--	--	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
(NOTE--ANALYSES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	BICARBONATE (HCO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	TOTAL NITRATE (N) (MG/L)
STREAMS TRIBUTARY TO LAKE SUPERIOR												
04044737 - WAGNER FALLS CREEK AT MOUTH NR MUNISING, MICH. . (LAT 46 23 33 LONG 086 37 46.01)												
MAR., 1972 28...	0930	4.6	--	--	--	--	93	76	E5.0	--	--	E.50
04044742 - TANNERY CREEK NR MUNISING, MICH. . (LAT 46 25 02 LONG 086 37 46.01)												
MAR., 1972 28...	1015	.40	--	--	--	--	115	94	E5.0	--	--	E.32
04044744 - MUNISING FALLS CREEK NR MUNISING, MICH. . (LAT 46 25 28 LONG 086 37 27.01)												
MAR., 1972 28...	1045	1.6	--	--	--	--	115	94	E5.0	--	--	E.32
04044759 - MOSQUITO RIVER NR MELSTRAND, MICH. . (LAT 46 29 16 LONG 086 28 05.01)												
MAR., 1972 28...	1300	6.1	--	--	--	--	107	88	E5.0	--	--	E.25
STREAMS TRIBUTARY TO LAKE MICHIGAN												
04065630 - PINE CREEK NR NORWAY, MICH. . (LAT 45 49 38 LONG 087 53 50.01)												
MAR., 1972 15...	1600	--	13	75	20	11	178	146	120	10	.4	E.52
04096420 - FISHER C AT FISHER RD AT FISHER, MICH. . (LAT 41 53 02 LONG 084 53 08.01)												
JUNE, 1972 22...	1240	--	--	--	--	--	313	257	E140	17	--	E8.5
OCT. 27...	1050	--	--	--	--	--	326	267	E160	18	--	E.32
04096421 - MARBLE LK - MIDDLE LK CHANNEL NR QUINCY, MICH. . (LAT 41 54 58 LONG 084 53 30.01)												
JUNE, 1972 22...	1215	--	--	--	--	--	178	146	E95	16	--	E.04
04096433 - MUD LK - LONG LK CHANNEL NR KINDERHOOK, MICH. . (LAT 41 51 26 LONG 084 57 23.01)												
JUNE, 1972 22...	1403	--	--	--	--	--	261	214	E130	12	--	E1.4
OCT. 27...	1115	--	--	--	--	--	318	261	E120	13	--	E2.5
04096440 - COLDWATER R (CLDWTR LK OUT) NR KINDERHOOK, MICH. (LAT 41 50 23 LONG 085 00 03.01)												
JUNE, 1972 22...	1340	--	--	--	--	--	172	141	E65	11	--	E.04
OCT. 27...	1140	--	--	--	--	--	180	148	E30	10	--	E.05
04096460 - COLDWATER R AT GARFIELD RD NR COLDWATER, MICH. . (LAT 41 55 37 LONG 085 02 58.01)												
JUNE 21, 1972 22...	1433	--	--	--	--	--	200	164	E90	13	--	E.32
OCT. 27...	1245	--	--	--	--	--	206	169	E70	14	--	E.27
04096480 - SAUK R AT MARBLE LK OUTLET NR QUINCY, MICH. . (LAT 41 54 26 LONG 084 55 23.01)												
JUNE, 1972 22...	1200	--	--	--	--	--	178	146	E110	16	--	E.06
OCT. 27...	1030	--	--	--	--	--	196	161	E80	16	--	E.09
04096485 - SAUK R AT FREMONT RD NR COLDWATER, MICH. . (LAT 41 56 19 LONG 084 55 55.01)												
JUNE, 1973 12...	1400	77	--	50	39	--	244	200	108	16	--	.86
04096494 - SAUK R AT WILLOWBROOK RD NR COLDWATER, MICH. . (LAT 41 55 28 LONG 084 58 16.01)												
JUNE, 1973 12...	1530	84	--	50	41	--	250	205	120	15	--	.34

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
(NOTE--ANALYSES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)
STREAMS TRIBUTARY TO LAKE SUPERIOR												
04044737 - WAGNER FALLS CREEK AT MOUTH NR MUNISING, MICH. . (LAT 46 23 33 LONG 086 37 46.01)												
MAR., 1972 28...	--	--	--	--	82	6	200	6.8	2.0	20	0	--
04044742 - TANNERY CREEK NR MUNISING, MICH. . (LAT 46 25 02 LONG 086 37 46.01)												
MAR., 1972 28...	--	--	--	--	98	4	185	6.9	1.0	0	1	--
04044744 - MUNISING FALLS CREEK NR MUNISING, MICH. . (LAT 46 25 28 LONG 086 37 27.01)												
MAR., 1972 28...	--	--	--	--	104	10	200	6.8	.5	20	1	--
04044759 - MOSQUITO RIVER NR MELSTRAND, MICH. . (LAT 46 29 16 LONG 086 28 05.01)												
MAR., 1972 28...	--	--	--	--	88	0	175	6.3	.0	30	--	--
STREAMS TRIBUTARY TO LAKE MICHIGAN												
04065630 - PINE CREEK NR NORWAY, MICH. . (LAT 45 49 38 LONG 087 53 50.01)												
MAR., 1972 15...	--	--	--	348	270	120	520	7.3	.0	20	--	--
04096420 - FISHER C AT FISHER RD AT FISHER, MICH. . (LAT 41 53 02 LONG 084 53 08.01)												
JUNE, 1972 22...	--	--	--	--	387	130	705	8.0	15.0	--	1	9.1
OCT. 27...	--	--	--	--	422	160	770	7.4	7.0	25	1	10.8
04096421 - MARBLE LK - MIDDLE LK CHANNEL NR QUINCY, MICH. . (LAT 41 54 58 LONG 084 53 30.01)												
JUNE, 1972 22...	--	[illegible]	.01	--	232	86	465	7.5	19.5	--	2	8.7
04096433 - MUD LK - LONG LK CHANNEL NR KINDERHOOK, MICH. . (LAT 41 51 26 LONG 084 57 23.01)												
JUNE, 1972 22...	--	.07	.03	--	213	0	560	8.1	19.5	--	1	9.4
OCT. 27...	--	.05	.02	--	394	130	710	7.8	7.0	5	2	9.4
04096440 - COLDWATER R (CLDWTR LK OUT) NR KINDERHOOK, MICH. (LAT 41 50 23 LONG 085 00 03.01)												
JUNE, 1972 22...	--	.04	.00	--	200	59	395	8.1	19.0	--	1	9.2
OCT. 27...	--	[illegible]	.01	--	220	72	435	8.1	8.5	10	1	10.2
04096460 - COLDWATER R AT GARFIELD RD NR COLDWATER, MICH. . (LAT 41 55 37 LONG 085 02 58.01)												
JUNE, 1972 22...	--	.07	.01	--	236	72	460	7.6	18.0	--	2	8.2
OCT., 1972 27...	--	.02	.01	--	254	85	500	7.9	8.5	--	1	11.4
04096480 - SAUK R AT MARBLE LK OUTLET NR QUINCY, MICH. . (LAT 41 54 26 LONG 084 55 23.01)												
JUNE, 1972 22...	--	.07	.01	--	222	76	460	7.6	20.0	--	0	7.8
OCT. 27...	--	.06	.04	--	248	87	470	7.1	10.0	0	2	9.2
04096485 - SAUK R AT FREMONT RD NR COLDWATER, MICH. . (LAT 41 56 19 LONG 084 55 55.01)												
JUNE, 1973 12...	--	--	--	--	286	86	540	8.2	24.5	0	5	--
04096494 - SAUK R AT WILLOWBROOK RD NR COLDWATER, MICH. . (LAT 41 55 28 LONG 084 58 16.01)												
JUNE, 1973 12...	--	--	--	--	294	89	575	7.7	24.0	5	6	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYS[illegible], WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973--Continued
(NOTE--ANALYSES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL NITRATE (N) (MG/L)
STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued												
04096496 - SAUK R AT SPRAUGE ST AT COLDWATER, MICH. . (LAT 41 55 59 LONG 084 59 27.01)												
JUNE, 1973												
12...	1600	--	4.4	80	23	6.0	240	197	78	18	.3	.63
04096501 - SAUK R NR MOUTH AT COLDWATER, MICH. . (LAT 41 56 27 LONG 085 01 34.01)												
JUNE, 1972												
22...	1504	--	--	--	--	--	260	213	E90	50	--	E1.5
OCT.												
27...	1255	--	--	--	--	--	216	177	E90	27	--	E.56
27...	1330	--	--	--	--	--	222	182	E70	62	--	E1.5
04096502 - SOUTH LAKE OUTLET AT COLDWATER, MICH. . (LAT 41 56 40 LONG 085 01 53.01)												
JUNE, 1972												
22...	1525	--	--	--	--	--	232	190	E90	29	--	E.56
04096512 - COLD (MUD) C AT COLDWATER, MICH. . (LAT 41 57 50 LONG 085 01 06.01)												
JUNE, 1972												
22...	1355	--	--	--	--	--	295	242	E60	47	--	E.32
OCT.												
27...	1345	--	--	--	--	--	284	233	E75	45	--	E1.5
04096513 - RANDALL LAKE OUTLET NR COLDWATER, MICH. . (LAT 41 58 41 LONG 085 01 44.01)												
JUNE, 1972												
22...	1610	--	--	--	--	--	187	153	E80	24	--	E.02
OCT.												
27...	1410	--	--	--	--	--	232	190	E70	31	--	E.09
04096514 - COLDWATER R AT RIVER RD NR HODUNK, MICH. . (LAT 42 00 36 LONG 085 02 27.01)												
JUNE, 1972												
22...	1628	--	--	--	--	--	178	146	E65	21	--	E.02
OCT.												
27...	1435	--	--	--	--	--	224	184	E55	28	--	E.14
04102188 - S B PAW PAW R AT MICHIGAN ST AT PAW PAW, MICH. . (LAT 42 13 03 LONG 085 53 55.01)												
JUNE, 1972												
21...	1430	--	--	--	--	--	250	205	42	13	--	.60
OCT.												
26...	1130	--	--	--	--	--	266	218	60	17	--	1.2
04102192 - MAPLE LK (SB PAW PAW R) AT OUT NR PAW PAW, MICH. (LAT 42 14 05 LONG 085 53 10.01)												
OCT., 1972												
26...	1215	--	--	--	--	--	240	197	55	17	--	.93
04102586 - HAVEN-MAX LK DR AB LAGOON AT BLOOMINGDALE, MICH. (LAT 42 22 44 LONG 085 57 21.01)												
AUG., 1973												
03...	1600	--	--	--	--	--	254	208	14	30	--	.07
04102587 - HAVEN-MAX LK DR AT 45 ST NR BLOOMINGDALE, MICH.. (LAT 42 22 25 LONG 085 59 11.01)												
AUG., 1973												
03...	1430	2.6	--	--	--	--	282	231	13	28	--	.32
04102589 - HAVEN-MAX LK DR AT 46.5 ST NR BLOOMINGDALE, MICH (LAT 42 22 08 LONG 086 00 01.01)												
AUG., 1973												
03...	1345	3.0	--	--	--	--	182	159	16	26	--	.02
04102760 - SADDLE LAKE NEAR GRAND JUNCTION, MICH. . (LAT 42 23 27 LONG 086 03 08.01)												
OCT., 1972												
26...	1400	--	--	--	--	--	192	157	15	6	--	.14
26...	1410	--	--	--	--	--	154	126	11	--	--	.08
26...	1420	--	--	--	--	--	152	125	15	10	--	.00
26...	1435	--	--	--	--	--	150	123	10	12	--	.02
26...	1450	--	--	--	--	--	152	124	12	13	--	.00

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973--Continued

(NOTE--ANALYSES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)
STREAMS TRIBUTARY TO LAKE MICHIGAN --Continued												
04096496 - SAUK R AT SPRAUGE ST AT COLDWATER, MICH. . (LAT 41 55 59 LONG 084 59 27.01)												
JUNE, 1973												
12...	--	--	.00	346	300	99	585	8.0	24.0	20	--	--
04096501 - SAUK R NR MOUTH AT COLDWATER, MICH. . (LAT 41 56 27 LONG 085 01 34.01)												
JUNE, 1972												
22...	--	.87	.76	--	212	0	700	7.5	16.5	--	2	8.0
OCT.												
27...	--	.15	.12	--	270	93	580	7.9	10.5	5	2	9.7
27...	--	.37	.32	--	274	92	700	7.8	11.0	5	3	8.0
04096502 - SOUTH LAKE OUTLET AT COLDWATER, MICH. . (LAT 41 56 40 LONG 085 01 53.01)												
JUNE, 1972												
22...	--	.40	.31	--	271	81	575	7.5	18.5	--	3	8.7
04096512 - COLD (MUD) C AT COLDWATER, MICH. . (LAT 41 57 50 LONG 085 01 06.01)												
JUNE, 1972												
22...	--	.03	.02	--	321	79	660	7.9	12.5	--	1	8.3
OCT.												
27...	.04	.02	.02	--	338	100	700	7.9	7.5	0	2	10.0
04096513 - RANDALL LAKE OUTLET NR COLDWATER, MICH. . (LAT 41 58 41 LONG 085 01 44.01)												
JUNE, 1972												
22...	--	.16	.10	--	227	74	490	7.9	20.0	--	2	9.6
OCT.												
27...	--	.36	.31	--	258	68	580	7.3	9.0	0	7	12.4
04096514 - COLDWATER R AT RIVER RD NR HODUNK, MICH. . (LAT 42 00 36 LONG 085 02 27.01)												
JUNE, 1972												
22...	.00	--	.02	--	212	66	455	7.8	20.0	--	2	8.8
OCT.												
27...	--	.31	.24	--	246	62	560	7.8	9.0	0	2	5.7
04102186 - S B PAW PAW R AT MICHIGAN ST AT PAW PAW, MICH. . (LAT 42 13 03 LONG 085 53 55.01)												
JUNE, 1972												
21...	.50	.02	.01	292	270	64	478	7.9	--	10	6	--
OCT.												
26...	.09	.01	.01	--	294	76	600	6.7	8.0	20	4	11.5
04102192 - MAPLE LK (SB PAW PAW R) AT OUT NR PAW PAW, MICH. (LAT 42 14 05 LONG 085 53 10.01)												
OCT., 1972												
26...	.79	.03	.02	--	268	71	520	6.9	8.5	50	5	9.9
04102586 - HAVEN-MAX LK DR AB LAGOON AT BLOOMINGDALE, MICH. (LAT 42 22 44 LONG 085 57 21.01)												
AUG., 1973												
03...	.07	.02	--	288	239	31	481	8.0	23.0	--	6	--
04102587 - HAVEN-MAX LK DR AT 45 ST NR BLOOMINGDALE, MICH.. (LAT 42 22 25 LONG 085 59 11.01)												
AUG., 1973												
03...	.23	.36	.15	294	258	27	555	8.3	18.5	--	240	8.5
04102589 - HAVEN-MAX LK DR AT 46.5 ST NR BLOOMINGDALE, MICH (LAT 42 22 08 LONG 086 00 01.01)												
AUG., 1973												
03...	.02	.03	.00	236	186	27	400	8.3	25.0	--	4	7.9
04102760 - SADDLE LAKE NEAR GRAND JUNCTION, MICH. . (LAT 42 23 27 LONG 086 03 08.01)												
OCT., 1972												
26...	--	.26	.16	--	176	19	260	7.0	14.5	90	1	5.5
26...	--	.03	.02	--	142	16	250	7.2	13.5	20	1	11.2
26...	--	.02	.02	--	148	23	260	7.9	9.0	20	1	12.0
26...	--	.02	.01	--	144	21	285	7.0	8.5	0	1	11.8
26...	--	.01	.01	--	140	15	285	7.7	8.5	20	1	11.6

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973--Continued
(NOTE--ANALYSES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	BICARBONATE (HCO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	TOTAL NITRATE (N) (MG/L)
STREAMS TRIBUTARY TO LAKE HURON												
04129025 - PIGEON R AT TIN BRIDGE NEAR WOLVERINE, MICH. , (LAT 45 13 27 LONG 084 25 44.01)												
JUNE, 1972												
29...	1245	54	--	--	--	--	235	194	E9.0	.5	--	E.00
STREAMS TRIBUTARY TO LAKE ST. CLAIR												
04160640 - MARSH DRAIN NEAR BROADBRIDGE STATION, MICH. , (LAT 42 41 05 LONG 082 31 52.01)												
MAY , 1972												
04...	1230	1.0	--	--	--	--	222	182	E300	82	--	E1.7
04160645 - BEAUBIEN CREEK NEAR STARVILLE, MICH. , (LAT 42 40 24 LONG 082 35 15.01)												
MAY , 1972												
04...	1145	5.2	--	--	--	--	126	103	E91	37	--	E.16
04160650 - SWAN CREEK AT MEISNER RD NEAR PETERS, MICH. , (LAT 42 45 15 LONG 082 37 38.01)												
MAY , 1972												
04...	1100	5.8	--	--	--	--	106	87	E90	38	--	E.14
04160655 - SWAN CREEK AT ARNOLD RD NEAR FAIRHAVEN, MICH. , (LAT 42 42 30 LONG 082 39 05.01)												
MAY , 1972												
04...	1400	14	--	--	--	--	110	90	E50	58	--	E.16
JULY, 1973												
19...	0930	.04	1.2	83	23	30	214	176	46	96	.5	.14
04160660 - SWAN CREEK TRIBUTARY NEAR ANCHORVILLE, MICH. , (LAT 42 41 37 LONG 082 40 06.01)												
MAY , 1972												
04...	1320	4.9	--	--	--	--	134	110	E95	110	--	E.04
04160670 - MARSAC CREEK AT BETHY RD AT NEW BALTIMORE, MICH. (LAT 42 41 37 LONG 082 42 30.01)												
MAY , 1972												
04...	1440	2.7	--	--	--	--	140	115	E85	82	--	E.07
04160680 - SALT RIVER AT 28-MILE RD NR NEW HAVEN, MICH. , (LAT 42 44 59 LONG 082 46 39.01)												
MAY , 1972												
04...	1030	10	--	--	--	--	200	164	E80	63	--	E1.3
04160688 - SALT RIVER AT I-94 NEAR NEW HAVEN, MICH. , (LAT 42 42 35 LONG 082 46 12.01)												
JULY, 1973												
19...	1045	.89	10	87	29	94	292	239	80	140	.6	3.2
04160690 - SALT RIVER AT 24-MILE RD NR NEW BALTIMORE, MICH. (LAT 42 41 25 LONG 082 46 02.01)												
MAY , 1972												
04...	0955	26	--	--	--	--	168	138	E20	52	--	E1.1
04160700 - FISH CREEK AT 23-MILE RD NR NEW BALTIMORE, MICH. (LAT 42 40 31 LONG 082 47 09.01)												
MAY , 1972												
04...	0905	5.8	--	--	--	--	180	148	E85	87	--	E.04
STREAMS TRIBUTARY TO DETROIT RIVER												
04168585 - ECORSE RIVER AT DIX RD AT LINCOLN PARK, MICH. , (LAT 42 16 08 LONG 083 10 54.01)												
JULY, 1973												
19...	1305	.74	1.4	100	31	120	233	191	110	230	.6	.18
04168594 - SB ECORSE R AT GODDARD RD AT LINCOLN PARK, MICH. (LAT 42 13 41 LONG 083 12 26.01)												
JULY, 1973												
19...	1325	.88	2.3	95	34	180	210	172	120	330	.6	.23
04168662 - FRANK-POET DRAIN AT VAN HORN RD AT TRENTON, MICH (LAT 42 07 36 LONG 083 12 11.01)												
JULY, 1973												
19...	1510	.62	.1	91	27	90	202	166	130	170	.6	.47

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
(NOTE--ANALYSES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)
STREAMS TRIBUTARY TO LAKE HURON												
04129025 - PIGEON R AT TIN BRIDGE NEAR WOLVERINE, MICH. . (LAT 45 13 27 LONG 084 25 44.01)												
JUNE, 1972												
29...	--	--	--	--	198	4	360	8.4	19.5	0	0	--
STREAMS TRIBUTARY TO LAKE ST. CLAIR												
04160640 - MARSH DRAIN NEAR BROADBRIDGE STATION, MICH. . (LAT 42 41 05 LONG 082 31 52.01)												
MAY , 1972												
04...	--	--	--	--	508	330	1180	7.5	13.5	80	10	--
04160645 - BEAUBIEN CREEK NEAR STARVILLE, MICH. . (LAT 42 40 24 LONG 082 35 15.01)												
MAY , 1972												
04...	--	--	--	--	220	120	400	7.2	12.0	135	20	--
04160650 - SWAN CREEK AT MEISNER RD NEAR PETERS, MICH. . (LAT 42 45 15 LONG 082 37 38.01)												
MAY , 1972												
04...	--	--	--	--	208	120	480	7.1	11.0	105	10	--
04160655 - SWAN CREEK AT ARNOLD RD NEAR FAIRHAVEN, MICH. . (LAT 42 42 30 LONG 082 39 05.01)												
MAY , 1972												
04...	--	--	--	--	206	120	540	7.3	13.0	125	25	--
JULY, 1973												
19...	--	--	--	466	300	120	706	7.4	22.5	55	15	--
04160660 - SWAN CREEK TRIBUTARY NEAR ANCHORVILLE, MICH. . (LAT 42 41 37 LONG 082 40 06.01)												
MAY , 1972												
04...	--	--	--	--	294	180	800	7.6	12.0	65	5	--
04160670 - MARSAC CREEK AT BETHY RD AT NEW BALTIMORE, MICH. (LAT 42 41 37 LONG 082 42 30.01)												
MAY , 1972												
04...	--	--	--	--	238	120	610	8.0	14.0	80	10	--
04160680 - SALT RIVER AT 28-MILE RD NR NEW HAVEN, MICH. . (LAT 42 44 59 LONG 082 46 39.01)												
MAY , 1972												
04...	--	--	--	--	274	110	740	7.6	11.0	65	10	--
04160688 - SALT RIVER AT I-94 NEAR NEW HAVEN, MICH. . (LAT 42 42 35 LONG 082 46 12.01)												
JULY, 1973												
19...	--	--	--	636	340	96	1040	7.2	19.5	23	42	--
04160690 - SALT RIVER AT 24-MILE RD NR NEW BALTIMORE, MICH. (LAT 42 41 25 LONG 082 46 02.01)												
MAY , 1972												
04...	--	--	--	--	240	100	650	7.6	11.0	80	20	--
04160700 - FISH CREEK AT 23-MILE RD NR NEW BALTIMORE, MICH. (LAT 42 40 31 LONG 082 47 09.01)												
MAY , 1972												
04...	--	--	--	--	276	130	800	7.5	11.0	45	6	--
STREAMS TRIBUTARY TO DETROIT RIVER												
04168585 - ECORSE RIVER AT DIX RD AT LINCOLN PARK, MICH. . (LAT 42 16 08 LONG 083 10 54.01)												
JULY, 1973												
19...	--	--	--	774	380	190	1240	7.3	21.5	17	2	--
04168594 - SB ECORSE R AT GODDARD RD AT LINCOLN PARK, MICH. (LAT 42 13 41 LONG 083 12 26.01)												
JULY, 1973												
19...	--	--	--	958	380	210	1530	7.3	28.0	23	12	--
04168662 - FRANK-POET DRAIN AT VAN HORN RD AT TRENTON, MICH (LAT 42 07 36 LONG 083 12 11.01)												
JULY, 1973												
19...	--	--	--	678	340	170	1060	7.2	27.0	24	47	--

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973--Continued
(NOTE--ANALYSIS PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL NITRATE (N) (MG/L)
STREAMS TRIBUTARY TO DETROIT RIVER --Continued												
04168662 - MARSH CREEK AT VREELAND RD NR GIBRALTAR, MICH. . (LAT 42 06 42 LONG 083 13 22.01)												
JULY, 1973												
19...	1425	.61	.8	120	29	170	262	215	160	200	.7	.23
STREAMS TRIBUTARY TO LAKE ERIE												
04175140 - BRADSHAW DR AT OAKVILLE-WALTZ RD NR OAKVILLE, MI (LAT 42 05 09 LONG 083 30 49.01)												
MAY , 1972												
24...	0920	3.9	--	--	--	--	256	210	E120	61	--	E.45
04175155 - SWAN C AT SUMPTER RD NR CARLETON, MICH. . (LAT 42 04 39 LONG 083 28 51.01)												
MAY , 1972												
23...	1735	4.4	--	--	--	--	254	208	E120	58	--	E.52
04175170 - DISBROW DR AT CARLETON-WEST RD NR CARLETON, MICH (LAT 42 05 05 LONG 083 25 53.01)												
MAY , 1972												
23...	1745	2.0	--	--	--	--	178	146	E110	68	--	E.70
04175172 - SWAN C AT CARLETON-WEST RD NR CARLETON, MICH. . (LAT 42 04 20 LONG 083 25 52.01)												
MAR., 1973												
15...	0805	--	7.1	90	21	9.4	202	166	76	40	.3	6.6
04175180 - SWAN C AT GRAFTON RD NR CARLETON, MICH. . (LAT 42 04 22 LONG 083 22 52.01)												
MAY , 1972												
24...	1020	7.4	--	--	--	--	250	205	E100	63	--	E1.9
JULY, 1973												
16...	1120	1.6	7.1	110	20	22	228	187	100	65	.6	.66
04175195 - N B SWAN C AT CARLETON-WEST RD NR WALTZ, MICH. . (LAT 42 07 11 LONG 083 25 17.01)												
MAY , 1972												
24...	0940	3.2	--	--	--	--	250	205	E90	70	--	E.32
04175207 - N B SWAN C AT NEWBURG RD NR CARLETON, MICH. . (LAT 42 04 45 LONG 083 22 08.01)												
MAY , 1972												
24...	0905	3.6	--	--	--	--	216	177	E130	79	--	E6.3
JULY, 1973												
16...	1040	.63	8.5	110	19	36	258	212	82	94	.3	.56
04175225 - L SWAN C AT SWEITZER RD NR CARLETON, MICH. . (LAT 42 02 20 LONG 083 20 45.01)												
MAY , 1972												
24...	0800	1.2	--	--	--	--	186	153	E190	48	--	E12
JULY, 1973												
16...	1235	.12	9.9	110	27	14	270	221	110	44	.4	.79
04175235 - SWAN C AT BRANDON RD AT NEWPORT, MICH. . (LAT 42 00 12 LONG 083 10 02.01)												
MAY , 1972												
23...	1425	10	--	--	--	--	248	203	E120	67	--	E2.3
04175315 - PAINT C AT MERRITT RD NR LINCOLN, MICH. . (LAT 42 11 18 LONG 083 36 25.01)												
MAY , 1972												
24...	1240	5.9	--	--	--	--	292	239	E90	25	--	E.10
04175340 - STONY CREEK AT OAKVILLE, MICH. . (LAT 42 05 05 LONG 083 34 43.01)												
MAY , 1972												
24...	1040	10	--	--	--	--	292	239	E120	45	--	E3.4
JULY, 1973												
16...	1000	13	11	110	22	16	292	239	84	42	.3	.77
04175345 - POLZIN DR AT TORREY RD NR OAKVILLE, MICH. . (LAT 42 03 52 LONG 083 32 23.01)												
MAY , 1972												
24...	1000	1.0	--	--	--	--	270	221	E110	40	--	--

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973

(NOTE--ANALYSES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)
STREAMS TRIBUTARY TO DETROIT RIVER --Continued												
04168682 - MARSH CREEK AT VREELAND RD NR GIBRALTAR, MICH. . (LAT 42 06 42 LONG 083 13 22.01)												
JULY, 1973 19...	--	--	--	972	420	200	1530	7.4	26.0	37	9	--
STREAMS TRIBUTARY TO LAKE ERIE												
04175140 - BRADSHAW DR AT OAKVILLE-WALTZ RD NR OAKVILLE, MI (LAT 42 05 09 LONG 083 30 49.01)												
MAY , 1972 24...	--	--	--	--	358	150	700	7.5	6.5	70	8	--
04175155 - SWAN C AT SUMPTER RD NR CARLETON, MICH. . (LAT 42 04 39 LONG 083 28 51.01)												
MAY , 1972 23...	--	--	--	--	356	150	700	7.7	11.5	70	3	--
04175170 - DISBROW DR AT CARLETON-WEST RD NR CARLETON, MICH (LAT 42 05 05 LONG 083 25 53.01)												
MAY , 1972 23...	--	--	--	--	284	140	590	8.0	15.0	80	4	--
04175172 - SWAN C AT CARLETON-WEST RD NR CARLETON, MICH. . (LAT 42 04 29 LONG 083 25 52.01)												
MAR., 1973 15...	--	--	--	414	310	140	609	7.3	--	35	40	--
04175180 - SWAN C AT GRAFTON RD NR CARLETON, MICH. . (LAT 42 04 22 LONG 083 22 52.01)												
MAY , 1972 24...	--	--	--	--	374	170	725	7.7	18.5	40	4	--
JULY, 1973 10...	--	--	--	452	360	170	669	7.5	20.0	15	4	--
04175195 - N B SWAN C AT CARLETON-WEST RD NR WALTZ, MICH. . (LAT 42 07 11 LONG 083 25 17.01)												
MAY , 1972 24...	--	--	--	--	342	140	700	8.0	18.5	40	1	--
04175207 - N B SWAN C AT NEWBURG RD NR CARLETON, MICH. . (LAT 42 04 45 LONG 083 22 08.01)												
MAY , 1972 24...	--	--	--	--	334	160	740	7.4	18.5	50	2	--
JULY, 1973 16...	--	--	--	514	350	140	787	7.5	19.0	25	5	--
04175225 - L SWAN C AT SWEITZER RD NR CARLETON, MICH. . (LAT 42 02 20 LONG 083 20 45.01)												
MAY , 1972 24...	--	--	--	--	384	230	725	7.5	18.0	40	7	--
JULY, 1973 16...	--	--	--	492	390	160	710	7.6	19.0	30	5	--
04175235 - SWAN C AT BRANDON RD AT NEWPORT, MICH. . (LAT 42 00 12 LONG 083 18 02.01)												
MAY , 1972 23...	--	--	--	--	382	180	780	7.8	24.5	70	5	--
04175315 - PAINT C AT MERRITT RD NR LINCOLN, MICH. . (LAT 42 11 18 LONG 083 36 25.01)												
MAY , 1972 24...	--	--	--	--	352	110	610	7.6	9.0	50	5	--
04175340 - STONY CREEK AT OAKVILLE, MICH. . (LAT 42 05 05 LONG 083 34 43.01)												
MAY , 1972 24...	--	--	--	--	368	130	670	7.7	8.0	80	7	--
JULY, 1973 16...	--	--	--	462	360	120	686	7.8	18.0	10	7	--
04175345 - POLZIN DR AT TORREY RD NR OAKVILLE, MICH. . (LAT 42 03 52 LONG 083 32 23.01)												
MAY , 1972 24...	--	--	--	--	332	110	610	7.8	6.5	70	1	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
(NOTE--ANALYSES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

STREAMS TRIBUTARY TO LAKE ERIE --Continued

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	BICARBONATE (HCO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	TOTAL NITRATE (N) (MG/L)
04175360 - STONY C AT TIMBERS RD NR MAYBEE, MICH. . (LAT 42 02 56 LONG 083 30 38.01)												
MAY , 1972												
24...	1510	24	--	--	--	--	286	235	E100	41	--	E2.9
04175385 - STONY C AT EXTER RD NR CARLETON, MICH. . (LAT 42 01 24 LONG 083 25 10.01)												
MAY , 1972												
23...	1645	28	--	--	--	--	274	225	E110	42	--	E4.1
04175395 - ROBERT DR AT SOUTH STONY C RD NR CARLETON, MICH. (LAT 42 00 06 LONG 083 23 13.01)												
MAY , 1972												
23...	1545	1.1	--	--	--	--	174	143	E150	44	--	E14
04175405 - STONY C AT MENTEL RD NR NEWPORT, MICH. . (LAT 41 57 50 LONG 083 20 22.01)												
MAY , 1972												
23...	1550	37	--	--	--	--	216	177	E500	43	--	E3.6
JULY, 1973												
16...	1325	18	9.8	110	20	16	294	241	87	44	.3	.61
04175428 - SANDY C AT TELEGRAPH RD NR MONROE, MICH. . (LAT 41 58 02 LONG 083 23 02.01)												
MAY , 1972												
23...	1510	2.0	--	--	--	--	192	157	E130	50	--	E10
04175455 - L SANDY C AT HWY US-25 NR MONROE, MICH. . (LAT 41 56 56 LONG 083 22 58.01)												
MAY , 1972												
23...	1435	1.9	--	--	--	--	212	174	E220	59	--	E12
04175465 - SANDY C AT N DIXIE HWY NEAR MONROE, MICH. (LAT 41 56 55 LONG 083 18 34.01)												
MAY , 1972												
23...	1500	6.1	--	--	--	--	276	226	E95	59	--	E14
JULY, 1973												
16...	1420	1.3	11	150	29	21	302	248	190	48	.6	12
04176553 - PLUM CREEK AT GEIGER RD NEAR IDA, MICH. . (LAT 41 56 07 LONG 083 32 23.01)												
MAY , 1972												
23...	0938	.93	--	--	--	--	198	162	E140	62	--	E9.3
04176560 - PITTS CREEK AT RAISINVILLE RD NR STRASBURG, MICH (LAT 41 54 39 LONG 083 28 31.01)												
MAY , 1972												
23...	1330	2.2	--	--	--	--	218	179	E210	64	--	E17
04176566 - PLUM CREEK AT KENTUCKY AVE AT MONROE, MICH. . (LAT 41 54 08 LONG 083 23 35.01)												
MAY , 1972												
23...	1400	5.5	--	--	--	--	198	162	E250	51	--	E14
JULY, 1973												
16...	1245	4.4	6.1	320	54	18	252	207	740	44	1.0	.32
04176580 - NB OTTER CREEK AT GEIGER RD NR IDA, MICH. . (LAT 41 53 39 LONG 083 33 13.01)												
MAY , 1972												
23...	1030	1.2	--	--	--	--	232	190	E80	57	--	E11
JULY, 1973												
16...	1500	.36	19	110	16	17	326	267	43	43	.4	.63
04176585 - SUMMERFIELD-IDA DR AT MINX RD NR STRASBURG, MICH (LAT 41 52 59 LONG 083 32 02.01)												
MAY , 1972												
23...	1105	1.8	--	--	--	--	180	148	E100	43	--	E5
04176598 - SB OTTER CREEK AT STRASBURG RD NR LASALLE, MICH. (LAT 41 51 41 LONG 083 30 41.01)												
MAY , 1972												
23...	1140	2.8	--	--	--	--	194	159	E140	42	--	E10
JULY, 1973												
16...	1400	.37	16	120	23	18	340	279	72	50	.4	1.6

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973

(NOTE--ANALYSES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)
STREAMS TRIBUTARY TO LAKE ERIE --Continued												
04175360 - STONY C AT TIMBERS RD NR MAYBEE, MICH. . (LAT 42 02 56 LONG 083 30 30.01)												
MAY , 1972 24...	--	--	--	--	366	130	690	7.8	8.5	50	20	--
04175385 - STONY C AT EXTER RD NR CARLETON, MICH. . (LAT 42 01 24 LONG 083 25 10.01)												
MAY , 1972 23...	--	--	--	--	374	150	690	7.7	12.0	70	23	--
04175395 - ROBERT DR AT SOUTH STONY C RD NR CARLETON, MICH. (LAT 42 00 05 LONG 083 23 13.01)												
MAY , 1972 23...	--	--	--	--	356	210	690	7.7	24.0	40	4	--
04175405 - STONY C AT MENTEL RD NR NEWPORT, MICH. . (LAT 41 57 50 LONG 083 20 22.01)												
MAY , 1972 23...	--	--	--	--	472	380	875	8.3	23.5	100	10	--
JULY, 1973 16...	--	--	--	486	360	120	691	7.6	23.0	20	7	--
04175420 - SANDY C AT TELEGRAPH RD NR MONROE, MICH. . (LAT 41 58 02 LONG 083 23 02.01)												
MAY , 1972 23...	--	--	--	--	386	230	750	7.6	22.0	30	1	--
04175455 - L SANDY C AT HWY US-25 NR MONROE, MICH. . (LAT 41 56 56 LONG 083 22 58.01)												
MAY , 1972 23...	--	--	--	--	458	280	940	7.9	20.5	30	1	--
04175465 - SANDY C AT N DIXIE HWY NEAR MONROE, MICH. (LAT 41 56 55 LONG 083 18 34.01)												
MAY , 1972 23...	--	--	--	--	390	160	780	7.9	19.5	110	2	--
JULY, 1973 16...	1.2	--	--	650	490	250	889	7.9	21.0	30	2	--
04176553 - PLUM CREEK AT GEIGER RD NEAR IDA, MICH. . (LAT 41 56 07 LONG 083 32 23.01)												
MAY , 1972 23...	--	--	--	--	390	230	790	7.5	18.0	40	2	--
04176560 - PITTS CREEK AT RAISINVILLE RD NR STRASBURG, MICH (LAT 41 54 39 LONG 083 28 31.01)												
MAY , 1972 23...	--	--	--	--	484	300	925	7.9	21.5	40	4	--
04176566 - PLUM CREEK AT KENTUCKY AVE AT MONROE, MICH. . (LAT 41 54 08 LONG 083 23 35.01)												
MAY , 1972 23...	--	--	--	--	520	370	750	8.4	20.5	20	1	--
JULY, 1973 16...	.30	--	--	1441	1020	810	1570	7.7	21.0	15	2	--
04176580 - NB OTTER CREEK AT GEIGER RD NR IDA, MICH. . (LAT 41 53 39 LONG 083 33 13.01)												
MAY , 1972 23...	--	--	--	--	362	170	720	7.7	19.0	40	4	--
JULY, 1973 16...	--	--	--	446	340	72	656	7.7	24.0	25	4	--
04176585 - SUMMERFIELD-IDA DR AT MINK RD NR STRASBURG, MICH (LAT 41 52 59 LONG 083 32 02.01)												
MAY , 1972 23...	--	--	--	--	300	150	600	7.7	20.0	40	2	--
04176590 - SB OTTER CREEK AT STRASBURG RD NR LASALLE, MICH. (LAT 41 51 41 LONG 083 30 41.01)												
MAY , 1972 23...	--	--	--	--	364	200	780	7.6	18.5	30	6	--
JULY, 1973 16...	--	--	--	520	390	110	740	7.7	21.0	35	30	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973
(NOTE--ANALYSES PREFIXED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	BICARBONATE (HCO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	TOTAL NITRATE (N) (MG/L)
STREAMS TRIBUTARY TO LAKE ERIE --Continued												
04176605 - OTTER CREEK AT M-25 AT LASALLE, MICH. , (LAT 41 52 01 LONG 083 27 13.01)												
MAY , 1972												
23...	1230	17	--	--	--	--	160	131	E120	45	--	E9.0
JULY, 1973												
16...	1320	5.4	7.6	100	19	13	246	202	89	42	.3	1.1
04176617 - MUDDY C AT BELLETERRE RD NR COLUMBUS GROVE, MICH (LAT 41 49 31 LONG 083 27 57.01)												
MAY , 1972												
23...	1310	1.6	--	--	--	--	238	195	E140	45	--	E12
04176630 - BAY CREEK AT DETROIT-TOLEDO RR NR ERIE, MICH. , (LAT 41 47 26 LONG 083 28 32.01)												
MAY , 1972												
23...	1225	2.4	--	--	--	--	210	172	E140	110	--	E11
04176640 - LITTLE LAKE CREEK AT SUDER RD NEAR ERIE, MICH. , (LAT 41 46 23 LONG 082 29 28.01)												
MAY , 1972												
23...	1150	2.5	--	--	--	--	244	200	E120	52	--	E5.9
JULY, 1973												
16...	1130	1.5	8.1	90	26	14	268	220	79	40	.3	1.5
04176645 - FLAT CREEK AT DEAN RD NEAR ERIE, MICH. , (LAT 41 45 23 LONG 083 30 17.01)												
MAY , 1972												
23...	1120	1.4	--	--	--	--	262	215	E160	72	--	E9.0
04176655 - HOEGLE DRAIN AT SCHOOL RD NEAR SAMARIA, MICH. , (LAT 41 48 47 LONG 083 40 14.01)												
MAY , 1972												
23...	0730	.01	--	--	--	--	294	241	E90	140	--	E.02
04176662 - HALFWAY C AT PIEHL RD NR WHITEFORD CENTER, MICH. (LAT 41 47 05 LONG 083 39 30.01)												
MAY , 1972												
23...	0800	.23	--	--	--	--	228	187	E190	104	--	E2.0
04176680 - HALFWAY CREEK AT SMITH RD NR LAMBERTVILLE, MICH. (LAT 41 44 07 LONG 083 36 18.01)												
MAY , 1972												
23...	1020	4.6	--	--	--	--	244	200	E250	63	--	E1.7
JULY, 1973												
16...	1030	3.2	10	150	30	37	260	213	220	80	.5	.60
04176695 - INDIAN CREEK AT LAVOY RD NR TEMPERANCE, MICH. , (LAT 41 34 14 LONG 083 32 46.01)												
MAY , 1972												
23...	1050	1.6	--	--	--	--	246	202	E270	125	--	E1.5
04176715 - BIG RAVINE DRAIN AT US-223 AT OTTAWA LAKE, MICH. (LAT 41 45 40 LONG 083 44 50.01)												
MAY , 1972												
23...	0840	1.0	--	--	--	--	154	126	E160	41	--	E11
04176725 - OTTAWA LK OUT AT STERNS RD NR LAMBERTVILLE, MICH (LAT 42 34 40 LONG 083 43 00.01)												
MAY , 1972												
23...	0915	2.5	--	--	--	--	146	120	E140	36	--	E13
04176730 - NB TENMILE C AT MICKER RD NR LAMBERTVILLE, MICH. (LAT 42 33 02 LONG 083 42 40.01)												
MAY , 1972												
23...	0940	2.7	--	--	--	--	162	133	E110	53	--	E12
JULY, 1973												
16...	1000	.90	.6	81	25	17	240	197	73	44	.3	.09
420650085475801 - BANKSON LAKE NEAR LAWTON, MICH. , (LAT 42 06 50 LONG 085 47 58.01)												
AUG., 1973												
03...	1030	CENTER OF SOUTH HALF, DEPTH 44FT ;				--	100	82	9.0	5	--	.07
03...	1035	DEPTH 1FT ;				--	82	67	10	5	--	.02
03...	1045	CENTER OF LAKE, OFF "THE POINT" ;				--	82	67	--	5	--	.02
03...	1055	EAST SIDE, DEPTH 3FT ;				--	82	67	--	5	--	.01
421947085493701 - NORTH LAKE NEAR KENDALL, MICH. , (LAT 42 19 47 LONG 085 49 37.01)												
OCT., 1972												
26...	1000	--	--	--	--	--	78	64	10	4	--	.00
26...	1010	--	--	--	--	--	78	64	13	4	--	.02
26...	1020	--	--	--	--	--	78	64	10	4	--	.02

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973

(NOTE--ANALYSES PREFACED BY THE LETTER "E" ARE ESTIMATES BASED ON FIELD ANALYSES)

DATE	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)
STREAMS TRIBUTARY TO LAKE ERIE --Continued												
04176605 - OTTER CREEK AT M-25 AT LASALLE, MICH. . (LAT 41 52 01 LONG 083 27 13.01)												
MAY , 1972												
23...	--	--	--	--	332	200	560	7.6	21.0	40	3	--
JULY, 1973												
16...	--	--	--	412	330	130	624	8.0	24.0	25	3	--
04176617 - MUDDY C AT BELLETERRE RD NR COLUMBUS GROVE, MICH (LAT 41 49 31 LONG 083 27 57.01)												
MAY , 1972												
23...	--	--	--	--	390	200	750	7.9	18.5	50	5	--
04176630 - BAY CREEK AT DETROIT-TOLEDO RR NR ERIE, MICH. . (LAT 41 47 26 LONG 083 28 32.01)												
MAY , 1972												
23...	--	--	--	--	380	220	900	8.1	21.5	80	1	--
04176640 - LITTLE LAKE CREEK AT SUDER RD NEAR ERIE, MICH. . (LAT 41 46 23 LONG 082 29 20.01)												
MAY , 1972												
23...	--	--	--	--	384	100	600	8.2	20.5	90	3	--
JULY, 1973												
16...	--	--	--	400	340	120	629	7.7	20.0	25	3	--
04176645 - FLAT CREEK AT DEAN RD NEAR ERIE, MICH. . (LAT 41 45 23 LONG 083 30 17.01)												
MAY , 1972												
23...	--	--	--	--	482	190	810	8.1	21.5	100	5	--
04176655 - HOEGLE DRAIN AT SCHOOL RD NEAR SAMARIA, MICH. . (LAT 41 48 47 LONG 083 40 14.01)												
MAY , 1972												
23...	--	--	--	--	504	260	950	7.8	15.5	120	3	--
04176662 - HALFWAY C AT PIEHL RD NR WHITEFORD CENTER, MICH. (LAT 41 47 05 LONG 083 39 30.01)												
MAY , 1972												
23...	--	--	--	--	450	260	975	7.3	16.5	130	5	--
04176680 - HALFWAY CREEK AT SMITH RD NR LAMBERTVILLE, MICH. (LAT 41 44 07 LONG 083 36 18.01)												
MAY , 1972												
23...	--	--	--	--	492	290	900	7.8	18.0	110	3	--
JULY, 1973												
16...	--	--	--	700	500	290	980	7.7	19.0	10	2	--
04176695 - INDIAN CREEK AT LAVOY RD NR TEMPERANCE, MICH. . (LAT 41 34 14 LONG 083 32 46.01)												
MAY , 1972												
23...	--	--	--	--	510	310	1150	7.8	18.5	120	10	--
04176715 - BIG RAVINE DRAIN AT US-223 AT OTTAWA LAKE, MICH. (LAT 41 45 46 LONG 083 44 50.01)												
MAY , 1972												
23...	--	--	--	--	330	210	650	7.5	--	110	4	--
04176725 - OTTAWA LK OUT AT STERNS RD NR LAMBERTVILLE, MICH (LAT 42 34 40 LONG 083 43 00.01)												
MAY , 1972												
23...	--	--	--	--	342	220	675	7.8	18.5	110	6	--
04176730 - NB TENMILE C AT HICKER RD NR LAMBERTVILLE, MICH. (LAT 42 33 02 LONG 083 42 40.01)												
MAY , 1972												
23...	--	--	--	--	340	210	680	7.7	19.0	110	5	--
JULY, 1973												
16...	--	--	--	380	310	110	595	7.6	22.0	30	6	--
420650085475801 - BANKSON LAKE NEAR LAWTON, MICH. . (LAT 42 06 50 LONG 085 47 58.01)												
AUG., 1973												
03...	--	.03	.00	104	96	14	177	[illegible]	11.5	--	--	[illegible]
03...	--	.04	.01	108	82	15	[illegible]	[illegible]	[illegible]	--	--	[illegible]
03...	--	[illegible]	.00	--	--	--	[illegible]	[illegible]	[illegible]	--	--	[illegible]
03...	--	.02	.00	--	--	--	159	8.5	24.0	--	--	8.0
421947085493701 - NORTH LAKE NEAR KENDALL, MICH. . (LAT 42 19 47 LONG 085 49 37.01)												
OCT., 1972												
[illegible]	--	.01	.01	--	78	14	[illegible]	[illegible]	11.0	8	1	[illegible]
[illegible]	--	[illegible]	.01	--	76	13	[illegible]	[illegible]	[illegible]	8	1	[illegible]
24...	--	.03	.01	--	76	12	148	7.7	9.5	8	1	10.1

ANALYSES FOR SELECTED NUTRIENTS AND SANITARY PARAMETERS, WATER YEARS OCTOBER 1971, TO SEPTEMBER 1973

DATE	TIME	AZIMUTH FROM OUTLET (DEG)	DISTANCE FROM OUTLET[1] (FT)	DEPTH (FT)	TOTAL NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)
STREAMS TRIBUTARY TO LAKE MICHIGAN											
04096485 - SAUK R AT FREMONT RD NR COLDWATER, MICH. , (LAT 41 56 19 LONG 084 55 55.01)											
JUNE, 1973											
12...	1400	--	--	--	.84	--	.08	--	.25	--	.70
04096494 - SAUK R AT WILLOWBROOK RD NR COLDWATER, MICH. , (LAT 41 55 28 LONG 084 58 16.01)											
JUNE, 1973											
12...	1530	--	--	--	.34	--	.03	--	.21	--	.54
04096496 - SAUK R AT SPRAUGE ST AT COLDWATER, MICH. , (LAT 41 55 59 LONG 084 59 27.01)											
JUNE, 1973											
12...	1600	--	--	--	.65	--	.03	--	.32	--	.72
04102186 - S B PAW PAW R AT MICHIGAN ST AT PAW PAW, MICH. , (LAT 42 13 03 LONG 085 53 55.01)											
JUNE, 1972											
21...	1430	--	--	--	.59	.59	.01	.00	.14	.14	.52
OCT.											
26...	1130	--	--	--	1.2	.78	--	--	--	--	--
04102191 - ACKLEY LAKE AT OUTLET NEAR PAW PAW, MICH. (LAT 42 13 57 LONG 085 52 50.01)											
JUNE, 1972											
21...	1315	--	300	2.0	--	--	--	--	--	--	--
04102192 - MAPLE LK (SB PAW PAW R) AT OUT NR PAW PAW, MICH. (LAT 42 14 05 LONG 085 53 10.01)											
JUNE, 1972											
21...	1130	206	6700	3.0	.50	--	--	--	--	--	--
21...	1140	204	6400	1.0	--	--	--	--	--	--	--
21...	1205	201	6000	3.0	--	--	--	--	--	--	--
21...	1215	201	6000	1.0	.41	--	--	--	--	--	--
21...	1216	204	6300	7.0	.38	--	--	--	--	--	--
21...	1240	219	1800	1.0	.36	--	.03	--	.08	--	.38
21...	1241	219	1800	5.0	--	--	--	--	--	--	--
21...	1242	219	1800	7.0	--	--	--	--	--	--	--
21...	1245	201	1100	--	--	--	--	--	--	--	--
21...	1250	162	1400	--	--	--	--	--	--	--	--
21...	1300	129	1100	1.0	.21	--	.00	--	.00	--	.38
21...	1330	200	150	1.0	.32	--	--	--	--	--	--
21...	1331	200	150	5.0	--	--	--	--	--	--	--
21...	1332	200	150	10.0	--	--	--	--	--	--	--
21...	1345	245	1200	--	--	--	--	--	--	--	--
21...	1415	0	0	--	.30	--	.04	--	.27	.03	.87
OCT.											
26...	1215	0	0	--	.93	.79	--	--	--	--	--
04102760 - SADDLE LAKE NEAR GRAND JUNCTION, MICH. , (LAT 42 23 27 LONG 086 03 08.01)											
OCT., 1972											
26...	1400	153	6000	1.0	.14	--	--	--	--	--	--
26...	1410	148	4300	1.0	.00	--	--	--	--	--	--
26...	1420	166	2000	--	.00	--	--	--	--	--	--
26...	1435	188	700	1.0	.02	--	--	--	--	--	--
26...	1450	195	3700	1.0	.00	--	--	--	--	--	--
LANDLOCKED LAKES--VAN BUREN COUNTY											
420550085475801 - RANKSON LAKE NEAR LAWTON, MICH. , (LAT 42 06 50 LONG 085 47 58.01)											
AUG., 1973											
03...	1020	13.0	2000	2.0	--	--	--	--	--	--	--
03...	1021	13.0	2000	10	--	--	--	--	--	--	--
03...	1022	13.0	2000	15	--	--	--	--	--	--	--
03...	1023	13.0	2000	20	--	--	--	--	--	--	--
03...	1024	13.0	2000	25	--	--	--	--	--	--	--
03...	1025	13.0	2000	30	--	--	--	--	--	--	--
03...	1026	13.0	2000	35	--	--	--	--	--	--	--
03...	1027	13.0	2000	40	--	--	--	--	--	--	--
03...	1028	13.0	2000	47	--	--	--	--	--	--	--
03...	1030	13.0	2000	44	.07	.03	.00	--	.03	--	.82
03...	1035	13.0	2000	2.0	.02	.02	.00	--	.01	--	.84
03...	1045	23.0	2000	3.0	.02	--	--	--	.03	--	--
03...	1055	23.0	3600	3.0	.01	--	--	--	.03	--	--
421947085493701 - NORTH LAKE NEAR KENDALL, MICH. , (LAT 42 19 47 LONG 085 49 37.01)											
OCT., 1972											
26...	1600	28.0	2000	1.0	.02	--	--	--	--	--	--
26...	1610	28.0	2000	26	.02	--	--	--	--	--	--
26...	1620	60.0	2500	1.0	.00	--	--	--	--	--	--

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[1] Distance from southernmost point of lake for lakes without outlets

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

ANALYSES FOR SELECTED NUTRIENTS AND SANITARY PARAMETERS, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973

DATE	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORGANIC PHOS-PHORUS (P) (MG/L)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	IMME-DIATE COLI-FORM (COL. PER 100 ML)	FECAL COLI-FORM (COL. PER 100 ML)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
STREAMS TRIBUTARY TO LAKE MICHIGAN												
04096485 - SAUK R AT FREMONT RD NR COLDWATER, MICH. . (LAT 41 56 19 LONG 084 55 55.01)												
JUNE, 1973												
12...	.70	--	--	--	--	--	--	--	--	--	--	--
04096494 - SAUK R AT WILLOWBROOK RD NR COLDWATER, MICH. . (LAT 41 55 28 LONG 084 58 16.01)												
JUNE, 1973												
12...	--	--	--	--	--	--	--	--	--	--	--	--
04096496 - SAUK R AT SPRAUGE ST AT COLDWATER, MICH. . (LAT 41 55 59 LONG 084 59 27.01)												
JUNE, 1973												
12...	--	--	--	--	.00	--	--	--	--	--	--	--
04102186 - S B PAW PAW R AT MICHIGAN ST AT PAW PAW, MICH. . (LAT 42 13 03 LONG 085 53 55.01)												
JUNE, 1972												
21...	.38	.06	.02	.02	.01	.04	.02	--	--	--	--	--
OCT.												
26...	--	.02	.01	.01	.01	--	--	11.5	100	--	--	--
04102191 - ACKLEY LAKE AT OUTLET NEAR PAW PAW, MICH. (LAT 42 13 57 LONG 085 52 58.01)												
JUNE, 1972												
21...	--	--	--	--	--	--	--	10.3	120	200	10	--
21...	--	--	--	--	--	--	--	9.9	112	--	--	--
04102192 - MAPLE LK (SB PAW PAW R) AT OUT NR PAW PAW, MICH. (LAT 42 14 05 LONG 085 53 10.01)												
JUNE, 1972												
21...	--	.11	--	--	--	--	--	7.2	77	4600	170	--
21...	--	--	--	--	--	--	--	--	--	13000	590	
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	.07	--	--	--	--	--	9.1	102	3100	20	--
21...	--	.04	--	--	--	--	--	6.1	65	--	--	--
21...	--	.09	--	.01	--	.08	--	9.1	103	1600	10	--
21...	--	--	--	--	--	--	--	5.8	64	--	--	--
21...	--	--	--	--	--	--	--	3.0	33	--	--	--
21...	--	--	--	--	--	--	--	--	--	1900	10	--
21...	--	--	--	--	--	--	--	--	--	700	10	--
21...	--	.06	--	.01	--	.01	--	10.2	117	300	<10	--
21...	--	.04	--	--	--	.04	--	10.3	120	500	<10	--
21...	--	--	--	--	--	--	--	8.7	99	--	--	--
21...	--	--	--	--	--	--	--	8.4	91	--	--	--
21...	--	--	--	--	--	--	--	--	--	500	20	--
21...	.35	.06	.01	.01	.01	.05	.01	--	--	--	--	--
OCT.												
26...	--	.03	.01	.02	.00	--	--	9.9	87	--	--	--
04102760 - SADDLE LAKE NEAR GRAND JUNCTION, MICH. . (LAT 42 23 27 LONG 086 03 08.01)												
OCT., 1972												
26...	--	.26	--	.16	--	--	--	5.5	55	--	--	--
26...	--	.03	--	.02	--	--	--	11.2	110	--	--	--
26...	--	.02	--	.02	--	--	--	12.0	105	--	--	--
26...	--	.01	--	.01	--	--	--	11.8	104	--	--	--
26...	--	.01	--	.01	--	--	--	11.6	10	--	--	--
LANDLOCKED LAKES--VAN BUREN COUNTY												
420650085475801 - HANKSON LAKE NEAR LAWTON, MICH. . (LAT 42 06 50 LONG 085 47 58.01)												
AUG., 1973												
03...	--	--	--	--	--	--	--	8.2	--	--	--	--
03...	--	--	--	--	--	--	--	6.2	--	--	--	--
03...	--	--	--	--	--	--	--	4.0	--	--	--	--
03...	--	--	--	--	--	--	--	1.6	--	--	--	--
03...	--	--	--	--	--	--	--	1.6	--	--	--	--
03...	--	--	--	--	--	--	--	.9	--	--	--	--
03...	--	--	--	--	--	--	--	.5	--	--	--	--
03...	--	--	--	--	--	--	--	.4	--	--	--	--
03...	--	--	--	--	--	--	--	.3	--	--	--	--
03...	--	.04	--	.01	--	--	--	.3	3	--	--	.0
03...	--	.03	--	.00	--	--	--	8.2	99	--	--	.0
03...	--	.02	--	.00	--	--	--	8.5	97	--	--	.0
03...	--	.02	--	.00	--	--	--	8.0	98	--	--	.0
421947085493701 - NORTH LAKE NEAR KENDALL, MICH. . (LAT 42 19 47 LONG 085 49 37.01)												
OCT., 1972												
26...	--	.01	--	.01	--	--	--	9.3	86	--	--	--
26...	--	.02	--	.01	--	--	--	8.8	81	--	--	--
26...	--	.01	--	.01	--	--	--	10.1	90	--	--	--

PESTICIDE ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973

DATE	TOTAL ORGANIC CARBON (C) (MG/L)	TOTAL IN-ORGANIC CARBON (C) (MG/L)	DIS-SOLVED IN-ORGANIC CARBON (C) (MG/L)	ALDRIN (UG/L)	ALDRIN IN BOTTOM DE-POSITS (UG/KG)	CHLOR-DANE (UG/L)	CHLOR-DANE IN BOTTOM DE-POSITS (UG/KG)	DDD (UG/L)	DDD IN BOTTOM DE-POSITS (UG/KG)	DDE (UG/L)	DDE IN BOTTOM DE-POSITS (UG/KG)
04097188 - AUSTIN LAKE NR KALAMAZOO, MICH. . (LAT 42 09 59 LONG 085 32 28.01)											
DEC., 1971 08...	--	--	--	--	--	--	--	--	--	--	--
04097190 - WEST LAKE NR KALAMAZOO, MICH. . (LAT 42 10 57 LONG 085 33 51.01)											
DEC., 1971 08...	--	--	--	--	--	--	--	--	--	--	--
04097220 - PORTAGE CREEK AT 24TH ST NR VICKSBURG, MICH. . (LAT 42 05 34 LONG 085 31 47.01)											
DEC., 1971 08...	--	--	--	--	--	--	--	--	--	--	--
04102192 - MAPLE LK (SB PAW PAW R) AT OUT NR PAW PAW, MICH. (LAT 42 14 05 LONG 085 53 10.01)											
JUNE, 1972 21...	--	--	--	.00	--	E.0	--	.00	--	.00	--

DATE	HEPTA-CHLOR IN BOTTOM DE-POSITS (UG/KG)	HEPTA-CHLOR EPOXIDE (UG/L)	HEPTA-CHLOR EPOXIDE IN BOT-TOM DE-POSITS (UG/KG)	LINDANE (UG/L)	LINDANE IN BOTTOM DE-POSITS (UG/KG)	MALA-THION (UG/L)	MALA-THION IN BOTTOM DE-POSITS (UG/KG)	METH-OXY-CHLOR (UG/L)	METHYL PARA-THION (UG/L)	METHYL PARA-THION IN BOT-TOM DE-POSITS (UG/KG)	METHYL TRI-THION (UG/L)
04097188 - AUSTIN LAKE NR KALAMAZOO, MICH. . (LAT 42 09 59 LONG 085 32 28.01)											
DEC., 1971 08...	--	--	--	--	--	--	--	--	--	--	--
04097190 - WEST LAKE NR KALAMAZOO, MICH. . (LAT 42 10 57 LONG 085 33 51.01)											
DEC., 1971 08...	--	--	--	--	--	--	--	--	--	--	--
04097220 - PORTAGE CREEK AT 24TH ST NR VICKSBURG, MICH. . (LAT 42 05 34 LONG 085 31 47.01)											
DEC., 1971 08...	--	--	--	--	--	--	--	--	--	--	--
04102192 - MAPLE LK (SB PAW PAW R) AT OUT NR PAW PAW, MICH. (LAT 42 14 05 LONG 085 53 10.01)											
JUNE, 1972 21...	--	--	--	.00	--	.00	--	--	.00	--	--

ANALYSES FOR MINOR ELEMENTS, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1972

DATE	TIME	CYANIDE (CN) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)
04097220 - PORTAGE CREEK AT 24TH ST NR VICKSBURG, MICH. . (LAT 42 05 34 LONG 085 31 47.01)											
AUG., 1972 16...	1610	--	--	--	--	0	--	0	--	1	--
SEP. 15...	1615	--	--	9	--	--	--	--	--	--	--
04102186 - S B PAW PAW R AT MICHIGAN ST AT PAW PAW, MICH. . (LAT 42 13 03 LONG 085 53 55.01)											
JUNE, 1972 21...	1430	--	--	--	--	0	--	--	--	0	--
04105675 - KALAMAZOO RIVER AT AUGUSTA, MICH. . (LAT 42 20 07 LONG 085 20 43.01)											
AUG., 1972 16...	1730	--	--	--	--	1	0	--	--	0	--

PESTICIDE ANALYSES, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1973 --Continued

DATE	DDT (UG/L)	DDT IN BOTTOM DE-POSITS (UG/KG)	DI-AZINON (UG/L)	DI-AZINON IN BOTTOM DE-POSITS (UG/KG)	DI-ELDRIN (UG/L)	DI-ELDRIN IN BOTTOM DE-POSITS (UG/KG)	ENDO-SULFAN (UG/L)	ENDRIN (UG/L)	ENDRIN IN BOTTOM DE-POSITS (UG/KG)	ETHION (UG/L)	HEPTA-CHLOR (UG/L)
04097188 - AUSTIN LAKE NR KALAMAZOO, MICH. . (LAT 42 09 59 LONG 085 32 28.01)											
DEC., 1971 08...	--	--	--	--	--	--	--	--	--	--	--
04097190 - WEST LAKE NR KALAMAZOO, MICH. . (LAT 42 10 57 LONG 085 33 51.01)											
DEC., 1971 08...	--	--	--	--	--	--	--	--	--	--	--
04097220 - PORTAGE CREEK AT 24TH ST NR VICKSBURG, MICH. . (LAT 42 05 34 LONG 085 31 47.01)											
DEC., 1971 08...	--	--	--	--	--	--	--	--	--	--	--
04102192 - MAPLE LK (SB PAW PAW R) AT OUT NR PAW PAW, MICH. (LAT 42 14 05 LONG 085 53 10.01)											
JUNE, 1972 21...	.00	--	.00	--	.00	--	--	.00	--	.00	.00

DATE	PARA-THION (UG/L)	PARA-THION IN BOTTOM DE-POSITS (UG/KG)	PCB (UG/L)	PCB IN BOTTOM DE-POSITS (UG/KG)	TOX-APHENE (UG/L)	TRI-THION (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)	SAMPLE NUMBER	TIME
04097188 - AUSTIN LAKE NR KALAMAZOO, MICH. . (LAT 42 09 59 LONG 085 32 28.01)											
DEC., 1971 08...	--	--	--	--	--	--	.02	.00	.05	--	1515
04097190 - WEST LAKE NR KALAMAZOO, MICH. . (LAT 42 10 57 LONG 085 33 51.01)											
DEC., 1971 08...	--	--	--	--	--	--	.03	.00	.00	--	1450
04097220 - PORTAGE CREEK AT 24TH ST NR VICKSBURG, MICH. . (LAT 42 05 34 LONG 085 31 47.01)											
DEC., 1971 08...	--	--	--	--	--	--	.03	.00	.00	--	1540
04102192 - MAPLE LK (SB PAW PAW R) AT OUT NR PAW PAW, MICH. (LAT 42 14 05 LONG 085 53 10.01)											
JUNE, 1972 21...	.00	--	E.0	--	--	--	--	--	--	--	1415

ANALYSES FOR MINOR ELEMENTS, WATER YEARS OCTOBER 1971 TO SEPTEMBER 1972--Continued

DATE	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	TOTAL SELE-NIUM (SE) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
04097220 - PORTAGE CREEK AT 24TH ST NR VICKSBURG, MICH. . (LAT 42 05 34 LONG 085 31 47.01)											
AUG., 1972 16...	--	--	0	--	--	--	0	--	--	--	10
SEP. 15...	--	--	--	--	--	--	--	--	--	--	--
04102186 - S B PAW PAW R AT MICHIGAN ST AT PAW PAW, MICH. . (LAT 42 13 03 LONG 085 53 55.01)											
JUNE, 1972 21...	1	--	2	<.5	--	--	1	--	--	--	--
04105675 - KALAMAZOO RIVER AT AUGUSTA, MICH. . (LAT 42 20 07 LONG 085 20 43.01)											
AUG., 1972 16...	--	--	2	--	--	--	57	--	--	--	20

CHEMICAL ANALYSES OF GROUND WATER IN MICHIGAN

[Values prefaced by the letter "E" are estimates. Geologic units: 112, pleistocence series (GDMC, ground morainic deposits; OTSH, outwash deposits; FLSC,

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1973

Local Well Number	Name	Latitude Longitude	Geo-Logic Unit	Date of Sample	Total Depth of Well (Ft)	Silica (SiO_2) (Mg/1)	Iron (Fe) (Ug/1)	Man-ganese (Mn) (Ug/1)	Cal-cium (Ca) (Mg/1)	Mag-ne-sium (Mg) (Mg/1)	Sodium (Na) (Mg/1)	Po-tas-sium (K) (Mg/1)	Bicar-bonate (HCO_3) (Mg/1)	Car-bonate CO_3 (Mg/1)
ALGER COUNTY														
48N15W06ACD 01	KINGSTN L	46°35'08"086°13'36"	--	72-06-01	34	--	--	--	--	--	--	--	68	0
48N16W18BC 01	L BEAUER	46°33'30"086°21'45"	--	72-06-01	28	--	--	--	--	--	--	--	128	0
49N14W12BC 01	MIXON W.	46°39'48"086°00'31"	--	72-06-02	100	--	--	--	--	--	--	--	120	0
49N15W17CAA 01	AU SAB PT	46°38'33"086°12'37"	--	72-06-02	73	--	--	--	--	--	--	--	80	0
BRANCH COUNTY														
06S05W19BDCD01	CMBRG VLG	41°56'06"084°56'04"	112OTSH	73-06-12	--	--	--	--	83	41	--	--	356	0
06S06W22CAAC01	CLDWTR #5	41°56'02"084°59'31"	112OTSH	73-05-12	125	16	--	--	89	25	5.8	1.0	294	0
06S06W23BCAD01	O'SHANAHN	41°56'14"084°58'34"	112OTSH	73-06-12	45	--	--	--	75	36	--	--	316	0
			112OTSH	73-07-03	45	--	--	--	--	--	--	--	--	--
06S06W23DADD01	WHITNEY	41°55'58"084°57'43"	112OTSH	73-06-12	--	--	--	--	78	38	--	--	316	0
06S06W25BBAD01	CUTCHER	41°55'33"084°57'24"	112OTSH	73-06-12	--	--	--	--	97	28	--	--	286	0
06S06W27BADD01	CYNTHIA#1	41°55'26"084°59'27"	112OTSH	73-06-12	--	--	--	--	78	36	--	--	300	0
06S06W34ABAA01	BARKER, G.	41°54'44"084°59'11"	112GDMC	73-06-12	40	--	--	--	52	38	--	--	222	0
			112GDMC	73-07-03	40	--	--	--	--	--	--	--	--	--
GENESEE COUNTY														
08N05E06DDCD01	VORMAN #1	43°07'04"083°54'53"	328SGNW	72-08-11	94	6.4	--	--	17	8.0	1300	12	472	0
			328SGNW	73-05-14	94	1.2	--	--	20	11	1500	9.5	454	0
08N05E06DDCD01	VORMAN #2	43°07'04"083°54'53"	328SGNW	72-08-11	97	4.4	--	--	18	9.9	910	13	408	0
08N05E06DDDC01	VORMAN #4	43°07'05"083°54'45"	328SGNW	73-05-14	155	1.6	--	--	57	29	2700	17	490	0
KALAMAZOO COUNTY														
02S11W10DCB 01	KVP-B 11A	42°18'25"085°34'43"	112SAND	72-04-03	50	--	--	--	--	--	--	--	--	--
				72-05-12	50	--	--	--	--	--	--	--	--	--
				72-06-09	50	--	--	--	--	--	--	--	--	--
				72-07-14	50	--	0	--	--	--	--	--	401	--
				72-08-16	50	11	2.1	.34	130	46	31	5.4	322	0
				72-09-15	50	--	--	--	--	--	--	--	--	--
				73-03-21	50	--	--	--	--	--	--	--	406	0
				73-04-17	50	--	--	--	--	--	--	--	400	0
				73-05-18	50	--	--	--	--	--	--	--	392	0
				73-09-04	50	--	--	--	---	--	--	--	--	--
				73-09-24	50	12	.69	.16	130	43	68	7.7	416	0
				73-10-25	50	--	--	--	--	--	--	--	--	--
02S11W20BBB 01	KENDALL 2-A	42°16'43"085°36'56"	112SDVG	72-01-19	124	14	1.2	.26	72	24	7.4	.9	210	0
				72-02-23	124	--	--	--	--	--	--	--	--	--
				72-04-03	124	--	--	--	--	--	--	--	--	--
				72-06-09	124	--	--	--	--	--	--	--	303	0
				72-08-16	124	14	.98	.10	68	24	9.1	1.5	278	--
				72-09-15	124	--	--	--	--	--	--	--	--	--
				72-10-16	124	--	--	--	--	--	--	--	--	--
				72-11-15	124	--	--	--	--	--	--	--	--	--
				73-03-21	124	--	--	--	--	--	--	--	298	0
				73-07-02	124	--	--	--	--	--	--	--	--	--
				73-07-18	124	--	--	--	--	--	--	--	--	--
				73-08-07	124	14	.93	.05	70	23	6.0	.9	306	0
				73-08-28	124	13	.96	.08	72	24	9.2	.9	296	0
				73-09-04	124	--	--	--	--	--	--	--	--	--
				73-09-24	124	--	--	--	--	--	--	--	--	--
				73-10-25	124	--	--	--	--	--	--	--	--	--
02S11W22CCAA 01	CNTRL 1-C	42°16'41"085°35'05"	112SDVG	72-07-14	151	--	--	--	--	--	--	--	--	--
				72-08-16	151	14	.20	.21	130	32	27	5.9	362	0
				72-09-15	151	--	--	--	--	--	--	--	--	--
				72-10-16	151	--	--	--	--	--	--	--	--	--
				72-11-15	151	--	--	--	--	--	--	--	--	--
				72-12-08	151	--	--	--	--	--	--	--	--	--
				73-01-15	151	--	--	--	--	--	--	--	--	--
				73-02-16	151	--	--	--	--	--	--	--	--	--
				73-03-21	151	--	--	--	--	--	--	--	408	0
				73-10-05	151	16	.17	.13	130	33	27	3.2	390	0
				73-11-27	151	--	--	--	--	--	--	--	--	--
02S11W12CBC 01	UPJOHN #29	42°13'15"085°33'00"	112SDVG	72-08-16	246	15	1.3	.26	70	22	4.5	.9	268	0
				73-03-21	246	--	--	--	--	--	--	--	286	0
				73-05-18	246	--	--	--	--	--	--	--	280	0
				73-06-18	246	--	--	--	--	--	--	--	268	0
				73-08-17	246	--	--	--	--	--	--	--	268	0
03S11W12CBCD01	UPJOHN #30	42°13'11"085°32'55"	--	73-08-07	--	16	.62	.25	83	24	4.5	.9	292	0
				73-09-04	--	--	--	--	--	--	--	--	--	--
				73-09-24	--	--	--	--	--	--	--	--	--	--
				73-10-25	--	--	--	--	--	--	--	--	--	--
				73-11-27	--	--	--	--	--	--	--	--	--	--
SHIAWASSEE COUNTY														
08N04E12DDAB01	WHITE #1	43°06'18"083°55'51"	339BERE	73-05-14	1651	17	110	.41	27000	7900	72000	600	0	0
WASHTENAW COUNTY														
03S04E06BBCC01	HORMEN, E.	4[illegible]°14'57"084°00'48	112FLSC	72-08-17	61	--	--	--	--	--	--	--	259	0
04S03E02CADC01	MANCHEST	[illegible]2°09'03"084°02'35"	112FLSC	72-08-12	100	--	--	--	--	--	--	--	261	0

undifferentiated; SAND, sand; SDVG, sand and gravel; 328 SGNW, Pennsylvania System, Saginaw Formation; 339 BERE, Kinderhookian Series, Berie Sandsto

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1973

Alkalinity as CaCo3 (Mg/1)	Sulfate (SO4) (Mg/1)	Chloride (Cl) (Mg/1)	Fluoride (F) (Mg/1)	Nitrate (N) (Mg/1)	Nitrite (N) (Mg/1)	Ammonia Nitrogen (N) (Mg/1)	Organic Nitrogen (N) (Mg/1)	Dissolved Solids (Residue at 180 C) (Mg/1)	Hardness (Ca, Mg) (Mg/1)	Noncarbonate Hardness (Mg/1)	Specific Conductance (Micromhos)	pH (units)	Temperature (Deg C)	Color (Platinum Cobalt units)	Turbidity (JTU)
ALGER COUNTY--Continued															
56	E5.0	1.0	--	E.03	--	--	--	--	56	0	110	5.9	7.0	50	--
105	E5.0	1.0	--	E.08	--	--	--	--	108	3	125	7.1	5.5	10	--
98	E5.0	10	--	E1.50	--	--	--	--	120	22	225	6.7	5.5	40	--
66	E5.0	2.0	--	E.93	--	--	--	--	70	4	145	7.5	6.5	20	--
BRANCH COUNTY--Continued															
292	118	19	--	.04	.03	.34	.01	E460	374	82	710	7.2	15.5	0	--
--	61	20	.20	.04	.01	.59	.11	388	320	83	583	7.7	11.0	0	--
259	72	47	--	--	--	--	--	--	336	77	730	7.4	11.0	0	0
--	--	--	--	8.5	.01	.03	.06	--	--	--	--	--	--	--	--
259	110	14	--	.02	.01	.28	.09	E420	352	93	650	7.4	14.0	0	--
235	110	12	--	.05	.02	.54	.03	E440	356	120	670	7.2	14.0	0	--
246	98	24	--	.02	.01	.52	.04	E420	342	96	640	7.2	13.0	5	--
182	34	20	--	--	--	--	--	--	286	100	580	7.4	13.0	0	0
--	--	--	--	4.6	.1	.06	.02	--	--	--	--	--	--	--	--
GENESEE COUNTY--Continued															
387	50	1900	1.1	.02	--	--	--	3470	80	0	6100	7.7	--	5	--
372	92	2200	.9	.02	--	--	--	3830	94	0	6760	7.9	12.0	5	--
335	11	1300	1.6	.11	--	--	--	2440	86	0	4390	8.1	--	5	--
--	170	4100	.6	.03	--	--	--	7220	260	0	11500	7.8	11.0	5	--
KALAMAZOO COUNTY--Continued															
--	--	--	--	--	--	--	--	--	--	--	1200	--	14.0	--	--
--	--	--	--	--	--	--	--	--	--	--	1100	--	14.0	--	--
--	--	--	--	--	--	--	--	--	--	--	1100	--	15.5	--	--
329	--	49	--	--	--	--	--	--	526	197	895	--	--	50	5
--	210	76	.1	0	--	--	--	730	510	250	1140	7.9	14.5	5	8
--	--	--	--	--	--	--	--	--	--	--	1190	--	15.0	--	--
--	--	76	--	--	--	--	--	--	--	--	1080	7.2	14.5	10	7
--	--	86	--	--	--	--	--	--	--	--	1100	7.0	14.0	5	10
--	--	90	--	--	--	--	--	--	--	--	1100	7.1	14.5	0	7
--	--	--	--	--	--	--	--	--	--	--	1130	7.1	17.0	--	--
--	130	120	.3	.01	--	--	--	732	500	160	1160	7.4	15.5	0	--
--	--	--	--	--	--	--	--	--	--	--	1120	7.3	16.0	--	--
--	30	14	.1	0	--	--	--	292	300	44	520	7.1	10.0	10	--
--	--	--	--	--	--	--	--	--	--	--	--	--	10.0	--	--
--	--	--	--	--	--	--	--	--	--	--	550	--	10.5	--	--
248	--	--	--	--	--	--	--	--	257	9	495	8.0	10.0	--	--
--	27	9.0	.2	0	--	--	--	314	270	26	506	--	12.0	0	--
--	--	--	--	--	--	--	--	--	--	--	525	--	11.0	--	--
--	--	--	--	--	--	--	--	--	--	--	520	--	10.0	--	--
--	--	--	--	--	--	--	--	--	--	--	520	--	10.0	--	--
244	E12	11	--	--	--	--	--	--	276	32	510	7.6	10.5	10	--
--	--	--	--	--	--	--	--	--	--	--	525	--	11.5	--	--
--	--	--	--	--	--	--	--	--	--	--	520	6.9	11.0	--	--
--	20	7.0	.1	0	--	--	--	284	270	20	486	7.0	12.0	5	--
--	21	9.7	.1	0	--	--	--	312	280	36	486	7.2	11.0	3	--
--	--	--	--	--	--	--	--	--	--	--	550	7.3	12.5	--	--
--	--	--	--	--	--	--	--	--	--	--	505	7.4	11.0	--	--
--	--	--	--	--	--	--	--	--	--	--	515	7.5	11.0	--	--
--	--	--	--	--	--	--	--	--	--	--	850	--	12.5	--	--
335	120	72	.1	.80	--	--	--	596	460	160	927	8.0	13.0	0	1
--	--	--	--	--	--	--	--	--	--	--	950	--	12.5	--	--
--	--	--	--	--	--	--	--	--	--	--	990	--	12.0	--	--
--	--	--	--	--	--	--	--	--	--	--	1025	--	13.0	--	--
--	--	--	--	--	--	--	--	--	--	--	975	--	13.0	--	--
--	--	--	--	--	--	--	--	--	--	--	995	--	13.0	--	--
--	--	--	--	--	--	--	--	--	--	--	1000	--	12.5	--	--
335	--	--	---	--	--	--	--	--	504	169	1040	7.2	12.5	0	2
--	99	48	.2	1.1	--	--	--	558	460	140	877	7.4	13.5	0	--
--	--	--	--	--	--	--	--	--	--	--	950	7.2	13.5	--	--
--	47	11	.1	0	--	--	--	312	260	46	492	8.1	11.0	0	--
--	21	9.0	--	0	--	--	--	--	294	59	540	7.6	7.0	0	--
--	37	10	--	0	--	--	--	--	284	54	510	7.6	11.0	0	--
--	59	9.0	--	0	--	--	--	--	280	60	500	8.2	15.5	15	--
220	59	9.0	--	0	--	--	--	--	280	60	500	8.2	15.5	15	6
--	60	6.5	.1	.01	--	--	--	344	300	64	538	7.0	11.5	5	--
--	--	--	--	--	--	--	--	--	--	--	625	7.2	12.0	--	--
--	--	--	--	--	--	--	--	--	--	--	550	7.2	11.0	--	--
--	--	--	--	--	--	--	--	--	--	--	590	7.5	12.0	--	--
--	--	--	--	--	--	--	--	--	--	--	550	7.5	11.5	--	--
SHIAWASSEE COUNTY--Continued															
--	1000	180000	2.6	2.0	--	--	--	327000	100000	100000	171000	3.5	--	80	--
WASHTENAW COUNTY--Continued															
212	18	1.0	--	0	--	--	--	--	226	14	420	7.4	20.0	--	--
214	8.0	2.0	--	0	--	--	--	--	214	0	430	7.3	15.0	--	--

Temperatures of ground water are measured as part of a state-wide water resource investigation in cooperation with Michigan Department of Natural Resources. The purpose of these measurements is to determine the natural ground-water temperature of selected points throughout the state. These data, when combined with existing theory, can be used to estimate ground-water temperatures at moderate depth at any point in the state. Measurements of temperature were made by means of "lazy" thermometers (Heath 1964, Art, 171, U.S. Geol. Survey Prof. Paper 475-D), which remained in the well except when being read.

TEMPERATURE (°C) OF GROUND WATER AT INDICATED DEPTH

DATE	WATER TEMPERATURE (°C)	DATE	WATER TEMPERATURE (°C)	DATE	WATER TEMPERATURE (°C)
ALGER COUNTY, WELL NO. 45N19W25BD (LAT 461608, LONG 0863738) DEPTH 67.2 FT.					
NOV. 09, 1971	9.6	MAY 15,.....	6.6	NOV. 01,.....	9.3
FEB. 16, 1972	7.9	JULY 25,.....	7.8	(DISCONTINUED)	
ALLEGAN COUNTY, WELL NO. 03N14W23DD (LAT 423733, LONG 0855509) DEPTH 41.0 FT.					
OCT. 07, 1971	9.4	JULY 13,.....	9.2	APR. 27,.....	9.5
NOV. 11,.....	9.6	AUG. 09,.....	9.3	JUNE 05,.....	9.3
DEC. 07,.....	9.8	SEP. 20,.....	9.4	JULY 02,.....	9.2
JAN. 10, 1972	9.8	NOV. 02,.....	9.6	AUG. 13,.....	9.3
FEB. 24,.....	9.8	NOV. 27,.....	9.7	SEP. 12,.....	9.4
APR. 11,.....	9.6	JAN. 29, 1973	9.8		
JUNE 05,.....	9.3	MAR. 05,.....	9.7		
CHARLEVOIX COUNTY, WELL NO. 32N04W10DA (LAT 451050, LONG 0845634) DEPTH 10.7 FT.					
OCT. 14, 1971	9.8	JUNE 08,.....	8.2	MAR. 13,.....	7.8
NOV. 03,.....	10.2	JULY 15,.....	10.0	APR. 02,.....	7.0
DEC. 01,.....	8.9	SEP. 05,.....	12.0	MAY 15,.....	7.7
JAN. 04, 1972	7.0	OCT. 10,.....	10.8	JUNE 19,.....	9.5
FEB. 09,.....	5.2	NOV. 15,.....	11.7	JULY 16,.....	11.2
MAR. 13,.....	4.1	DEC. 04,.....	10.6	AUG. 20,.....	12.5
APR. 18,.....	4.9	JAN. 08, 1973	9.7	SEP. 17,.....	13.6
MAY 08,.....	7.7	FEB. 06,.....	8.7		
CLINTON COUNTY, WELL NO. 06N02W16DDAD (LAT 425410, LONG 0843235) DEPTH 23.0 FT.					
OCT. 22, 1971	11.5	FEB. 22,.....	9.5	JUNE 22,.....	8.4
NOV. 22,.....	11.8	MAR. 23,.....	8.8	JULY 20,.....	9.1
DEC. 22,.....	11.6	APR. 21,.....	8.0	AUG. 18,.....	9.8
JAN. 21, 1972	10.6	MAY 22,.....	7.8	SEP. 19,.....	10.7

DATE	WATER TEMPERATURE (°C)	DATE	WATER TEMPERATRE (°C)	DATE	WATER TEMPERATURE (°C)
CLINTON COUNTY, WELL NO. 06N02W16DDAD--Continued					
OCT. 19, 1972	11.4	MAR. 23,.....	8.1	AUG. 10,.....	9.8
NOV. 20,.....	11.6	APR. 23,.....	7.7	AUG. 27,.....	10.2
DEC. 21,.....	10.9	MAY 23,.....	8.1	SEP. 20,.....	10.8
JAN. 22, 1973	9.7	JUNE 22,.....	8.6		
FEB. 22,.....	9.0	JULY 23,.....	9.4		
CRAWFORD COUNTY, WELL NO. 26N04W11CB (LAT 443943, LONG 0844604) DEPTH 11.4 FT.					
OCT. 21, 1971	10.9	JULY 24,.....	10.5	APR. 23,.....	3.8
NOV. 22,.....	10.0	AUG. 23,.....	9.4	MAY 11,.....	4.7
DEC. 21,.....	7.1	SEP. 21,.....	10.2	MAY 18,.....	5.0
JAN. 24, 1972	5.2	OCT. 25,.....	9.0	MAY 25,.....	5.2
FEB. 22,.....	5.0	NOV. 20,.....	7.5	JUNE 19,.....	7.7
MAR. 23,.....	5.0	DEC. 21,.....	5.8	JULY 23,.....	8.9
APR. 24,.....	4.2	JAN. 22, 1973	4.5	AUG. 16,.....	9.6
MAY 23,.....	6.5	FEB. 23,.....	3.4	SEP. 19,.....	12.2
JUNE 01,.....	--	MAR. 14,.....	3.3		
JUNE 22,.....	--	APR. 13,.....	3.5		
DICKINSON COUNTY, WELL NO. 43N28W32AD (LAT 460459, LONG 0874337) DEPTH 31.0 FT.					
NOV. 23, 1971	8.0	JULY 24,.....	6.5	MAR. 05,.....	7.2
JAN. 21, 1972	7.9	AUG. 25,.....	7.0	JUNE 29,.....	6.3
FEB. 15,.....	7.6	NOV. 07,.....	7.8	JULY 03,.....	--
APR. 10,.....	7.1	DEC. 04,.....	7.9	JULY 17,.....	6.3
MAY 17,.....	6.4	JAN. 15,1973	7.7	AUG. 14,.....	6.5
JUNE 20,.....	6.3	FEB. 06,.....	7.5	SEP. 20,.....	7.0
GRAND TRAVERSE COUNTY, WELL NO. 26N09W13CC (LAT 443832, LONG 0852112) DEPTH 12.6 FT.					
OCT. 21, 1971	9.9	JUNE 22,.....	6.1	FEB. 27,.....	5.0
NOV. 22,.....	9.7	JULY 24,.....	7.9	MAR. 14,.....	4.8
DEC. 21,.....	8.4	AUG. 23,.....	8.9	APR. 23,.....	4.8
JAN. 24, 1972	7.2	SEP. 21,.....	9.8	MAY 22,.....	5.5
FEB. 22,.....	6.4	OCT. 26,.....	10.0	JUNE 19,.....	6.8
MAR. 23,.....	5.4	NOV. 20,.....	9.2	JULY 23,.....	8.4
APR. 24,.....	4.9	DEC. 21,.....	7.7	AUG. 16,.....	9.3
MAY 24,.....	5.5	JAN. 22, 1973	6.1	SEP. 17,.....	10.4

TEMPERATURE (°C) OF GROUND WATER AT INDICATED DEPTH

DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)
GRATIOT COUNTY, WELL NO. 12N03W35BCC(LAT 432319, LONG 0843847) DEPTH 20.0 FT.					
OCT. 22, 1971	11.4	JUNE 22,.....	7.8	FEB. 22,.....	8.7
NOV. 22,.....	11.4	JULY 20,.....	8.8	MAR. 23,.....	7.6
DEC. 22,.....	10.6	AUG. 18,.....	9.8	APR. 23,.....	7.7
JAN. 21, 1972	9.2	SEP. 19,.....	10.8	MAY 23,.....	7.3
FEB. 22,.....	7.8	OCT. 19,.....	11.4	JUNE 22,.....	8.0
MAR. 23,.....	8.2	NOV. 20,.....	11.1	JULY 23,.....	10.0
APR. 21,.....	7.2	DEC. 21,.....	9.9	AUG. 10,.....	10.2
MAY 22,.....	7.2	JAN. 22, 1973	9.2	SEP. 07,.....	10.3
HILLSDALE COUNTY, WELL NO. 07S02W10BDD(LAT 415236, LONG 0843137) DEPTH 20.0 FT.					
OCT. 15, 1971	9.8	JUNE 13,.....	7.8	FEB. 15,.....	9.1
NOV. 15,.....	--	JULY 14,.....	8.0	MAR. 19,.....	8.6
DEC. 14,.....	10.1	AUG. 14,.....	8.5	APR. 18,.....	8.2
JAN. 14, 1972	9.8	SEP. 14,.....	9.1	MAY 17,.....	8.0
FEB. 14,.....	9.3	OCT. 13,.....	9.5	JUNE 15,.....	8.0
MAR. 15,.....	8.7	NOV. 14,.....	9.8	JULY 26,.....	8.4
APR. 13,.....	8.1	DEC. 14,.....	9.8	AUG. 06,.....	8.8
MAY 12,.....	7.8	JAN. 15, 1973	9.5	SEP. 04,.....	9.4
INGHAM COUNTY, WELL NO. 03N01E07DDCA (LAT 423934, LONG 0842149) DEPTH 40.9 FT.					
OCT. 22, 1971	10.5	JUNE 22,.....	10.0	FEB. 23,.....	10.0
NOV. 22,.....	10.5	JULY 20,.....	10.0	MAR. 26,.....	10.5
DEC. 22,.....	10.5	AUG. 18,.....	10.0	APR. 23,.....	10.0
JAN. 21, 1972	10.5	SEP. 19,.....	10.0	MAY 24,.....	--
FEB. 22,.....	10.5	OCT. 20,.....	10.0	JUNE 25,.....	10.0
MAR. 23,.....	10.5	NOV. 21,.....	10.5	JULY 25,.....	10.0
APR. 21,.....	10.5	DEC. 22,.....	10.5	AUG. 24,.....	10.5
MAY 22,.....	10.0	JAN. 23, 1973	10.5	SEP. 21,.....	10.5

KENT COUNTY, WELL NO. 10N12W13DDDA (LAT 431500, LONG 0854022) DEPTH 30.4 FT.

DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)
OCT. 04, 1971	9.4	MAY 01,.....	9.0	FEB. 12,.....	9.7
NOV. ,.....	9.8	JUNE 12,.....	9.2	MAR. 19,.....	9.3
DEC. 06,.....	9.9	JULY 24,.....	8.5	APR. 17,.....	9.0
JAN. 05, 1972	10.0	SEP. 05,.....	9.5	MAY 23,.....	8.9
FEB. 14,.....	9.8	OCT. 16,.....	9.5	JULY 09,.....	8.8
MAR. 20,.....	9.5	NOV. 20,.....	9.9	AUG. 13,.....	9.5
APR. 10,.....	9.2	JAN. 02, 1973	10.0		

LENAWEE COUNTY, WELL NO. 05S01E12DDBD (LAT 420246, LONG 0841506) DEPTH 39.0 FT.

DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)
OCT. 04, 1971	9.2	JUNE 02,.....	9.4	FEB. 05,.....	9.5
NOV. 04,.....	9.3	JULY 03,.....	9.3	MAR. 09,.....	9.5
DEC. 01,.....	9.4	AUG. 03,.....	9.2	APR. 09,.....	9.5
JAN. 03, 1972	9.4	SEP. 01,.....	9.2	MAY 10,.....	9.4
FEB. 01,.....	9.5	OCT. 02,.....	9.2	JUNE 08,.....	9.3
MAR. 03,.....	9.6	NOV. 02,.....	9.3	JULY 10,.....	9.6
APR. 04,.....	9.6	DEC. 05,.....	9.4	AUG. 06,.....	9.3
MAY 04,.....	9.5	JAN. 04, 1973	9.4	SEP. 04,.....	9.2

MARQUETTE COUNTY, WELL NO. 47N29W02DA (LAT 462959, LONG 0875313) DEPTH 19.0 FT.

DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)
NOV. 03, 1971	10.3	AUG. 11,.....	8.9	APR. 03,.....	2.5
DEC. 14,.....	8.1	SEP. 27,.....	11.1	MAY 15,.....	4.5
FEB. 03, 1972	5.8	NOV. 07,.....	10.5	JUNE 05,.....	4.8
MAR. 24,.....	4.8	DEC. 04,.....	8.0	JUNE 14,.....	5.5
MAY 23,.....	4.6	JAN. 24, 1973	5.6	JULY 25,.....	8.0
JUNE 27,.....	6.8	MAR. 05,.....	4.8	AUG. 29,.....	9.5

MASON COUNTY, WELL NO. 17N15W03CD (LAT 455326, LONG 0860531) DEPTH 30.4 FT.

DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)
OCT. 06, 1971	9.1	NOV. 03,.....	9.1	(DISCONTINUED)	

DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)	DATE	WATER TEMPER-ATURE (°C)
MEMOMINEE COUNTY, WELL NO. 37N26W19DA (LAT 453500, LONG 0873315) DEPTH 18.4 FT.					
NOV. 02, 1971	11.2	AUG. 25,.....	10.1	APR. 18,.....	5.6
JAN. 10,.....	8.2	SEP. 28,.....	11.1	MAY 10,.....	6.0
FEB. 28,.....	6.8	OCT. 26,.....	11.0	JUNE 07,.....	6.6
MAR. 31,.....	5.7	DEC. 11,.....	8.9	JULY 25,.....	8.9
APR. 25,.....	5.5	JAN. 17, 1973	7.5	AUG. 31,.....	10.7
JUNE 07,.....	6.7	MAR. 09,.....	6.0		
JUNE 28,.....	7.8	MAR. 23,.....	5.8		
MONROE COUNTY, WELL NO. 07S06E15AD (LAT 415235, LONG 0834140) DEPTH 17.9 FT.					
NOV. 23, 1971	11.7	JULY 17,.....	9.3	MAR. 22,.....	9.8
DEC. 13,.....	11.6	AUG. 21,.....	10.3	APR. 23,.....	8.5
FEB. 01, 1972	10.6	OCT. 02,.....	11.2	JUNE 08,.....	8.7
MAR. 21,.....	9.3	NOV. 09,.....	11.2	JULY 18,.....	9.2
APR. 24,.....	8.2	DEC. 18,.....	11.4	SEP. 18,.....	10.8
JUNE 14,.....	8.5	FEB. 05, 1973	10.1		
MUSKEGON COUNTY, WELL NO. 11N15W34DA (LAT 431806, LONG 0860444) DEPTH 32.0 FT.					
OCT. 05, 1971	9.1	MAY 12,.....	9.1	FEB. 13,.....	--
NOV. 02,.....	9.3	JUNE 12,.....	9.0	MAR. 20,.....	--
DEC. 07,.....	9.4	JULY 25,.....	9.0	APR. 18,.....	--
JAN. 06, 1972	9.6	SEP. 05,.....	8.6	MAY 23,.....	--
FEB. 15,.....	9.6	OCT. 17,.....	--	JULY 10,.....	--
MAR. 21,.....	9.4	NOV. 20,.....	9.0	AUG. 14,.....	--
APR. 11,.....	9.0	JAN. 03, 1973	--		
OAKLAND COUNTY, WELL NO 05N08E08ACAC (LAT 425116, LONG 0833205) DEPTH 42.0 FT.					
OCT. 04, 1971	9.0	JULY 07,.....	9.3	APR. 16,.....	8.5
NOV. 02,.....	10.4	AUG. 07,.....	9.2	MAY 29,.....	8.5
DEC. 03,.....	9.1	SEP. 19,.....	9.2	JULY 02,.....	9.1
JAN. 10, 1972	9.2	OCT. 24,.....	9.0	AUG. 06,.....	9.0
FEB. 23,.....	9.3	DEC. 04,.....	7.5	SEP. 10,.....	9.0
APR. 10,.....	9.3	JAN. 22, 1973	8.5		
MAY 15,.....	9.3	MAR. 05,.....	8.5		

ROSCOMMON COUNTY, WELL NO. 24N02W20BA (LAT 442722, LONG 0843507) DEPTH 12.0 FT.

DATE	WATER TEMPERATURE (°C)	DATE	WATER TEMPERATURE (°C)	DATE	WATER TEMPERATURE (°C)
OCT. 21, 1971	8.9	JULY 24,.....	6.4	MAR. 14,.....	3.9
NOV. 22,.....	8.5	AUG. 23,.....	7.1	APR. 17,.....	4.6
DEC. 21,.....	6.9	SEP. 21,.....	7.8	APR. 23,.....	4.5
JAN. 24, 1972	5.7	OCT. 25,.....	7.5	MAY 22,.....	1.5
FEB. 22,.....	5.6	NOV. 20,.....	6.8	JUNE 19,.....	5.6
MAR. 23,.....	6.0	DEC. 21,.....	5.6	JULY 23,.....	6.7
APR. 24,.....	4.6	JAN. 22, 1973	4.2	AUG. 16,.....	7.3
MAY 24,.....	4.5	FEB. 23,.....	3.5	SEP. 17,.....	8.1
JUNE 22,.....	5.1	MAR. 09,.....	3.5	SEP. 24,.....	9.6

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